Cryptomenysis Patefacta:

L.32.52 Sel. d

Or the

ART
OF
SECRET INFORMATION

Discloſed without a *KEY*.

Containing,

Plain and Demonſtrative Rules,

for Decyphering all Manner of SECRET WRITING. With Exact Methods, for Reſolving Secret Intimations by SIGNS or GESTURES, or in SPEECH. As alſo an Inquiry into the Secret ways of CONVEYING Written Meſſages: And the ſeveral MYSTERIOUS PROPOSALS for Secret Information, mentioned by *Trithemius*, &c.

By *J. F.*

Et varias uſus meditando extunderet Artes.
Virg. G. 1.

LONDON,
Printed for *Daniel Brown*, at the black *Swan* and *Bible*, without *Temple-Bar*, 1685.

79...725

TO THE

RIGHT HONOURABLE

CHARLES *Earl of* MIDDLETON,

Lord *Claremont* and *Fettercairn*, &c. Secretary of State for the Kingdom of *England*, and one of His Majesties most Honorable Privy Gouncil of both Kingdoms.

My Lord,

HAving *Writ a few Sheets, to lay open the Incertainty of* Cypher; *and* Decyphering, *being an Art consecrate to the Occasions of* Princes, *I do Humbly prefix your Lordships name to them:*

The thing is deſigned for His Majeſties Service, and that gives His Secretary a good Title to it: But my Lord I had other Motives for this my Preſumption, beſides your Eminent Station; I mean, the more *Eminent Adherence of your Noble Family, to the Intereſts of the Crown; at a time when he was accounted the only* Traytor, *that* dared not commit Treaſon. *His late Majeſty of ever Bleſſed* Memory, *and* Judgment, *next to infallible, had ſo much Confidence in the Conduct of your late Father; That he gave him the command of that Army in the Hills, which then only appeared for his Majeſties Intereſt, and might have been the means to reſtore Him,*

had

had not Providence ſuited a Bloodleſs Reſtauration *to a Gentle* Reign, *tho* Rebel's *Blood ſtains not. And when His Majeſty, was Miraculously ſettled upon the Throne of his Anceſtors; He firſt choſe the Earl of* Middleton, *out of all His Loyal Subjects in his Ancient Kingdom, immediately to Repreſent Him, as His* Commiſſioner; *the next Repreſentation of* Majeſty *it ſelf a Subject is capable of: And His Lordſhip died bearing part of that Sacred Image, as Governor of* Tangier. *This leads me to your Lordſhip, and I have the Authority of Cuſtom, to go on, for Dedications are generally Panegyricks, and Authors either find, or make their Patrons ſingular; But I forbear, be-*

cauſe, tho' I ſhould ſay nothing, but Truths, within the ſmall reach of my own Knowledg; as I might *exceed, the Belief of Strangers, ſo I muſt come ſhort, of the Expectation of all, who know your Lordſhip: And as the Subject treated of, (for the moſt part) lies out of the common Road, ſo the manner of this Addreſs to your Lordſhip is Suitable; having here ſo far ſhun'd the Imputation of Flattery, that I deſignedly* ſhade *evident Truths, while others* Blazon *Palpable Formalities.*

And now my Lord, though I Dedicate the following Obſervations to your Lordſhip, I hope none can fanſie that the Defects, under what Deſignation

nation soever may reflect upon you, I know it is a Critical Age, and Criticks have much of the Venom and Nature of Wasps, often observed, to make Sores where there are none to fix upon. But their Ignorance, as well as Malice is sufficiently ridiculous, that do not lay the Faults *of this, whether* Real, *or* Imaginary, *entirely at my own Dore; and there is Ground enough to throw them on: Let all, be imputed to* want *of years, or Judgment; and let this humble Address, be call'd* want *of Discretion; Nay there are* plenty *of* WANTS: *But I* HAVE *an intire Inclination, to serve my King and Country; and if this small Tract, at this time, do in any Measure Evidence it, I* HAVE *my aim,*

and

and let it remain upon record to my perpetual Infamy, if I do not chearfully, and upon all occaſions venture the laſt drop of my Blood in His Majeſties Service; and according to the Circumſtances, Act or Suffer for one *infinitly* BETTER *than the* GOOD OLD CAUSE. *And next to the Royal Intereſt, I declare, That my great Ambition in particular, is to be,*

My Lord,

Your Lordſhip's

Moſt Humble, and

Moſt Obedient Servant,

John Falconer.

TO

TO THE
READER.

YOU *will find amongſt the following Obſervations, that by* means of Secret Intelligence, *not only* Armies, *but* Kingdoms *and* Crowns *have been* loſt. *Which Things had never* otherways, *perhaps been* attempted, *at leaſt not* effected. *And particularly, That in the beginning of the late Troubles, of* ever Curſed Memory, *the* Canting (*I would ſay* Covenanting) *People of both Kingdoms, ſtudyed a part of this* BLACK Art, * *as their firſt degree in the* MYSTERY *of* Rebellion, *which ended not before the* Faith's Defender *was* removed *to make way for* Religion, *and the* Laws *of God and his Vicegerent were* overturned *to ſecure* property: *In ſhort untill there was nothing* Conſequential *viſible in ſome Mens actions, but only in that of Providing* Aſſes *for the* Pulpit, *and ſending* Horſes *to* Church.

* See Baker Chron. of the Kings of Engl. p. 492.

And certainly he wants the Head or Brains of a Plotter, (*tho he may have the Heart of*

a Traitor) *that does not in the first place (before he reduce his* Intentions *against an establish'd Authority into* Acts) *consider, That it is absolutely necessary, to fix some Method of* Private *Communication, betwixt those that are to be the* Instruments, *in carrying on the Work. Now taking this for* granted, *because* undenyable, *he must have a stock of Confidence to the* non ultra, *who will deny a Probability, That their Letters may be intercepted: And if* Intercepted *I dare trust the following Sheets to evince, That the most* sure Cypher *practicable in a Current converse may make a* Discovery.

The Rules delivered for Decyphering, *are not taken upon* Trust, *nor were to be had at the* second Hand; *but are the* genuin *result of* Experience, *and every* new *Experiment, gave occasion of* fresh *Observations.*

I hope it will be no unprofitable Digression, to give an Account of the occasion of my Inquiries this way, which fell out thus.

A few years ago, having had some discourse with a Gentleman, *concerning the* Possibility *of Resolving any Writing in Secret Character, and the* means *to perform it; I was taken with the Novelty of the Thing, and after some few serious thoughts, ventured upon the Tryal, which succeeding at first, I still went fur-*

further: And you have here the account of my Discoveries in this progress.

The Learned Lord Verulam, *in his* Advancement of Learning, *reports the Art of* Decyphering *as* WANTING, *and therefore* I *thought it worth the while to search after it.*

The Advantages, that may probably arise from the knowledge of it, I leave to be Collected from the danger *of* Secret Practices, *especially in this Juncture. And as the* late *Earl of* Argile's later *Designs, against the Government (discovered in several of his Letters last year) determined me to undertake this troublesome Task, so the* open *Rebellion now on foot added new Motives for its* speedy Publication, *according to that of the Poet.*

Et quoniam variant Morbi, variabimus Artes:
Mille malis species, mille salutis erunt.

I have no mind to enlarge; but there is one conveniency attending this Art, that I cannot pass over (because attributed to Cryptography) and it is, the Assistance *it will give to the* knowledge of the Tongues. Trithemius *affirms, in* recommendation of *his* Polygraphy, (*and* transposes *this* one *into no less than*

Polygrap. p. 38,39. de Cauſ. & Utilit. Operis.

than three *or* four Advantages.) *That by* it *a Man, that underſtands none but his* Mother Tongue, *may underſtand the ſenſe of an Epiſtle in* Latin, *&c. But this I have conſidered, and the Fallacy attending it* Chap. V.

But if you once underſtand the Rules for Decyphering, *in* one *Language, you may really, and without any Reſervation, in a few hours, underſtand as much of* any *Language, as is needful to reduce it out of* Cypher, *as is obſerved in another place. Now this muſt* produce *a* deſire *of* underſtanding *the meaning of what is ſo Decyphered, and* Deſire (*joyned even with a* Superficial knowledge) *a* Facility *of attaining* it.

Note, in Page 21, *a wrong Alphabet was by miſtake inſert, the true one is this,*

A b c d e f g h i k l m n o p q r s t v w x y z
P q r s t v w x y z a b c d e f g h i k l m n o

Towards the end of the Introduction, for Lucis Oſſores, *read* Lucis Oſores. *p.* 11. *l.* 28. *f.* Propoſitions, *r.* Præpoſitions. *p.* 94. *l.* 4. *f. In the order, ſtrings paſſing r. In the order of the ſtrings paſſing,* &c.

IN-

INTRODUCTION.

BEfore I enter upon any *particular* Enquiry into this occult Art, I conceive it proper enough to make ſome Introductory *general* Remarks upon the *whole* Deſign: And here I cannot but obſerve a very *Myſterious* Change between the *Meaſures* taken by ſome Politicians of *this*, as alſo many *paſt* Ages, and *thoſe* univerſally received of *Old*.

Primitive Simplicity was *Bleſſed* with one Language, *adapted* for the *Advancement* of *Knowledge* and *Commerce*, until our Forefathers undertook that *ungodly Expedition Heaven-ward*, when they were divided into ſeventy and two *Parties*, * *A. M.* 1758. and every one †CURSED Maſter of a Language for his own uſe.

*Vid. inter alios *Clav.* Epit. p. 5.

†Gen. c. 11.

But of a long time the *Policy-menders*, or rather *Plot-makers*, have taken quite another Byaſs: For inſtead of ſome generous Attempt to *repair* the *old* Breach of a Catholick *Converſe*, they debauch their Inventions, to frame and manage *new* ways of *Correſpondence*, that no Mortal, but a few joyned in the *Confederacy* ſhould comprehend.

But this *Project* (such as it is) has been very far from obtaining an *universal* Assent in any Age; tho' the *Tongue* was confounded, the Curse extended not to the *Brain*: *Reason* remained entire, which by help of that great School-master, *Experience*, taught them an useful piece of Philosophy, *That the World is but a large Society of Men, link'd together by a Chain of Wants almost of infinite Variety:* Or as *Dubartas* elegantly expresseth it,

——— All Lands at God destributes
To the World's Treasure pay their several Tributes.

Now in a Detection of 71 parts in 72, *Knowledge* and *Commerce* were mightily interrupted, and the *publick* must be presumed very *sensible* of the Loss; and Endeavours have been on all sides to remove this *Obstacle*, by which all Parties became Losers.

A *Reunion* of *Speech* (considering the different Regions Mankind was divided into) was not to be hoped for; and besides, as it might have proved a work *endless*, so it had been *needless*; for *Words* (however model'd) require presence of *Time* and *Place*, and cannot be conjured out of their little Sphere, being no less unfit to enter the *Ear*, or (of themselves) inform the *Understanding*, at a very few hours distance, than to satisfie a *craving Stomach*. Indeed Men are sometimes said to *eat* their *Words*; but they *grow* but *badly* on the *Dyet*.

These Inconveniencies gave Occasion to the *Invention* of *Writing*: An Art, by which we may not only transmit our Thoughts to an *absent Friend*,

Friend, in reſpect of *place*, but to *Poſterity*, in reſpect of *Time*; and that at the Diſtance of thouſands of Years: An Art by which me may yet hear *Moſes*, and the *Prophets*, * *Julius Cæſar*, and the *Conquerors*, &c. without the *Miracle* of being raiſed from the Dead; † *Solo literarum uſu, Memoria fulcitur Æternitas, ab omnique oblivionis injuria res memoriæ dignæ vindicantur.* And as *Rhodiginus* hath it, *Quid hoc magnificentius quid æque mirandum, in quod ne mortis quidem avida rapacitas jus ullum habet.*

* Witneſs his excellent Commentaries.

† *Polyd. Verg. de Invent. rerum* l. 1. c. 6.

Who was the Author of this Invention, I ſhall not take upon me to determine; but ſuch an Improvement of Converſe was thought to have ſomething more than human in it; and ‖ *Mercury* (who is by ſome thought to be the Firſt, by others the Fifth that taught the *Uſe* of *Letters* to the *Ægyptians*) was thereupon *Deified*, the uſual Complement that the Men of thoſe Ages put upon their *Benefactors*. But ſo it is, after the *manner of Men*, that what they make, they love to uſe *as their Creatures*: And thus they put new Gods in Commiſſion at pleaſure.

‖ *Polyd. Verg. ibid.*

Note, it's moſt conſonant to ſound Hiſtory, That the *Ægyptians* had this benefit from the neighbourhood of the *Iſraelites*.

But to let that paſs, whatever of ſuppoſed *Divinity* might be attributed to this *Invention*, when (like the ſuppoſed * *Inventor*) it had got Wings, and viſited ſome parts of the World. It was not long before ſome Men began to tamper with it; and to *Writing* add Secret ways of *Correſpondence*: The particulars of which are the Subject of this Treatiſe.

* *Mercury.*

Letters in their Infancy were in themſelves ſo Secret, that he that ſhould have taken them to task, to underſtand an Intrigue committed to their Truſt, might have worn his Eyes out of his Head, or ſunk them ſo low in it, as would give Ground to ſuſpect them on their March to enlighten the *Brain*, and the Writing as obſtinate as ever. And I am apt to believe ſome Men could be ſatisfied this Art had ſtill continued in that State; at leaſt confined to the uſe of themſelves and their Confederates, whoſe Necks are no longer *ſafe*, than their Deſigns *ſecret*.

As for thoſe things treated of by the Authors that have writ upon *Steganography*, &c. which lead a man to the Knowledge of the *Tongues*, or are ſubſervient to other uſeful *Sciences*: No man in his right Wits will diſcommend them, while ſuch *innocent Deſigns* are made the *ne ultra*.

Neither would I be mis-underſtood, ſo as to condemn even the *Uſe* of *Cypher* in general: For the Myſteries of State cannot perhaps be too well ſecured from prying Eyes; but tho' *Princes*, and thoſe in *Authority*, may have peculiar Signs for *ſecret Information*, I hope there's no Conſequence for a general Practice that way. The Lord *Bacon* mention'd it as an Aggravation of the Earl of *Somerſet*'s Crime, in *his Charge, when Attorney General againſt that Peer, concerning the poyſoning of Sir* Thomas Overbury, where, ſpeaking of the Earl's former Intimacy with Sir *Thomas*; *Nay*, (ſays he) *they were*

were grown to ſuch an Inwardneſs, as they made play of all the World beſides themſelves: So as they had Cyphers and Jargons for the King and Queen, and all the great Men; things ſeldom uſed, but either by Princes, *and their* Embaſſadors *and Miniſters, or by ſuch as work or practiſe* againſt, *or, at leaſt,* upon *Princes.* You have here this Learned Author's Sentiment of *Secret Writing, inter privatos*; tho' in his *Advancement* of *Learning,* he afterwards publiſhed the moſt ingenious Method (in my poor Judgment) that is extant: But of this afterwards. See the L. *Bacon's* genuine Remains. *Charge* againſt *Rob.* Earl of *Somerſet.*

I have ſeen very few Authors upon that Subject, but have acknowledg'd it a Detriment to the Publick, to publiſh their Inventions of this kind. And *Trithemius* in his Apology for Printing his ſix Books of *Polygraphy* (fore-ſeeing the Inconveniencies) gives this Caution: *Te, Lector, quicunque es, rogo memineris, quanta per hanc ſcientiam mala in Republica fieri per malos & lubricos poſſent, ſi ad multorum Notitiam deveniret, &c.* But it was an Overſight to imagine, that his Book in a general Progreſs, *Ad Reges, Principes, Nobiles & Ignobiles, Sacerdotes & Laicos, Doctos ſimul & Indoctos*; publiſhed in *Latin,* the moſt Univerſal Language, might not meet with ſome *ill deſigning Men:* And his Confidence in this, (as perhaps in other things) was but too great, to fanſie, that his bare Deſire could be more prevalent upon ſuch, than the Laws of God, or Man. I wiſh we were all ſo much *Stoicks,* as to conſider, that, *We come into the World as into a Comedy, where we are* *Polygr.* p. 83. *Vid.* p. 44. *Trit. Polyg.*

not to chuſe the perſon we muſt repreſent, but perform well the part given us, &c. And a little after, that Author adds to this purpoſe, If of a *Porter*, like a *Porter*; for there is *Honor* in well performing any in their *Kind*, and *Diſgrace* in doing any ill.

Duke of Bavaria.

Trithemius tells us (and indeed moſt of thoſe that follow his *Cryptical* Foot-ſteps, want not this Pretext) That it was at the Deſire, and only for the uſe of a † Prince, that he began his *Myſterious* (I had almoſt ſaid his *Miraculous*) *Steganography*, which was to fill the World with Wonder, if ever it ſhould be publiſhed; to which indeed he ſubjoyns an *Abſit*.

Polyg. præf. ad Maximil. Imperatorem.

Polyg. p. 100. *In manibus jam habeo grande opus, quod ſi unquam fuerit publicatum, quod abſit, totus Mundus mirabitur, &c.* And I am ſure we may without any Violence upon the Sence of this Author, make his Kindneſs to that Prince the *Reſult* of *Conviction*, ſince he acknowledges, *Operæ pretium fuerit principes omnes ſingulari præditos eſſe ſapientia, &c.* And it were uncharitable to ſuſpect him of Flattery in an unanſwerable Truth, even tho' his *Deſigns* and *Doings* (I mean in what he himſelf hath publiſhed to the World) do not ſeem to *quadrate*.

Polyg. p. 22.

I confeſs, the Practice of *Secret Information, inter privatos*, may, without any far Fetch, be derived from the ſame Original with *good Laws*, I mean from Corruption of Manners; and ſometimes both may have an Eye at *Order*; but their ſeveral Aims and Effects are generally in as direct an Oppoſition as Light and Darkneſs.

Ex malis moribus oriuntur bonæ Leges.

What

What the Intent and Effects of *good Laws* are, is well enough known: And on the other Hand, I hope it is, or ſhall be undeniable, that ſuch *Secret means*, without a *Commiſſion*, do often tend to the Breach of ſome poſitive *Command*. Theſe black Intrigues have often carried on darker Deſigns; things buried, that they may live: And I may, without any *Soleciſm* in Sence, affirm, That the * *Philopboti*, as well as † *Miſopboti*, mentioned by *Tritbemius*, are *Lucis Oſſores*: But more of this in its proper place. Tradition gives us the Story of a * Creature that lurks in ſecret, and kills a Man if it gets the firſt View of him. Now though I cannot ſwear to the Exiſtence of ſuch a Monſter among the *Brutes*, yet there have been brutal Contrivances that may give it the Authority of a Parable, and the Author an *Apology* for this endeavour to cruſh it in the Egg.

* Lovers of Light, or written characters. † Light-haters, or occult characters, not at firſt diſcernable to the Eye.

* *Baſiliſk* mentioned by *Pliny*, l. 8. c. 21.

It is true, the unridling of ſuch Myſteries, is more immediately the Province of thoſe who ſit at the *Helm* of *Affairs*, *Military* and *Civil*: Yet if a private Sentinel, by decyphering an intercepted Epiſtle, ſhould ſave an Army, *&c.* 'tis no Crime, I hope, that he be more clear ſighted than his Superiours. And beſides, the Knowledge of Uncyphering ſhould not be confined to a Corner: For great Undertakings (according to the Exactneſs of Policy) require ſudden Action: And if a Cypher were to be carried ſome hundreds of Miles for its *Reſolution*, the *Deſign* might in the mean time *diſcover it ſelf*, by an effectual *Execution*: Nay, many

times it may so fall out, that the Secret Writing cannot be safely *sent* far from the place where it may be intercepted, as in open Hostility, or so. These, and the like, are amongst the *Motives* that first enclined me to *send* abroad the following Observations concerning the unriddling of such secret Signs, or Notes of Intimation, that are practicable in a constant Correspondence: But that which entirely determined me, was the Time and Pains spent in *Decyphering* the late Earl of *Argyle's* Letters, as you may see in that Authentick *Account of the Discoveries made in* Scotland, *of the late Conspiracies against His Majesty and the Government*, published by His *Majesty's* Command.

And now to come to the *Particulars* contained in this small Tract:

First, I shall treat of the most material ways of *Secrecy in Writing* that have been invented (termed by those who have dealt that way, *Cryptographia*, *Steganographia*, *&c.*) and lay down plain Rules for *Decyphering* them without any Key.

2. Of *Sæmæology*, or the several Methods of *Secret* Information, by *Signs* and *Gestures*.

3. Of *Cryptology*, or that *Secrecy* consisting in *Speech*.

4. Of Secret *MEANS* of *CONVEYING Written Messages*, that have been practised to frustrate a Search; which Method may be called *Cryptogrammatophoria*, since there's no Statute against coyning of Words: And sure I have Precedents on my side. And,

5. I

5. I shall enquire into the several astonishing Proposals for *Secret Information*, mentioned in that Epistle of *Tritbemius*, directed to *Arnoldus Bostius*, concerning his eight Books of *Steganography*.

In this *Distribution*, I have not so much considered which are *first in Order* of *Nature*, or in *Order* of *Time*, as what is *first in Order* for the *Reader's Ease*: Whether *Speech*, or that dumb kind of *Eloquence* by *Signs*, be first *Ordine Naturæ*, is under Debate; and let it remain so: But without Controversie, for a *methodical comprehending* the whole Rules of Discovery, 'tis most proper to begin with *Cryptography*; being the Resolution of the rest of the Chapters, in a manner, depend upon this:

Crypto-

Cryptomenysis Patefacta:

OR, THE

Art of Secret Information disclosed without a Key.

CHAP. I.

Of Secret Writing, and the Resolution thereof.

IN *Secret Writing* there are reckoned these Requisites: Requisites in *Cryptography*, &c.

1. *That it be void of Suspicion, if possible.*

2. *That it be difficult to be unfolded, if doubted.*

3. *That it be fitted for Dispatch* (i. e.) easie to be writ, and Decyphered by the Key.

From whence I shall here only observe, That *every thing is to be Examined, that comes from a suspected Hand.* The particular ways of Tryal will appear as we proceed. *Note.*

This Art is by some Authors call'd *Cryptographia*, ἀπὸ τῦ κρύπτειν, to *hide*, or *keep secret*, and *Etymolog. of Cryptog.* &c.

and γράφω to *write*, *carve* or *grave*. By others *Steganographia*, ἀπὸ τῦ Στέγω, to *conceal*, and γράφω. *Trithemius* entitles the ſix Books he himſelf publiſhed upon this Subject, *Libri Polygraphiæ*, from πολὺς, becauſe of the *numerous*, or rather *innumerable* Differences it is capable of. And yet all will fall under the following Sections, which I have digeſted after this Method.

1. I ſhall examine that way of Secret Writing, by *Altering the Powers of the Letters*; as alſo by *invented Notes*, and *Characters*.

2. By *changing the Places of the Letters, where the Powers are the ſame.*

3. By uſing *more* Letters or Characters than are requiſite to frame Words.

4. I ſhall enquire into that Secreſie which ariſes by writing with *fewer* Letters than the words require.

5. I ſhall conſider the Secreſie in Writing, that proceeds from a Deceit in the Paper, or ſome other Material inſtead thereof: And,

6. That Fallacy where the Secret Intentions are concealed by a Deceit ariſing from the Ink, or ſome other Liquor uſed for it.

SECT.

SECT. I.

Of Secret Writing, by changing the Powers of Letters, &c.

¶ 1. *Contains ſeveral Ancient and Modern Inventions of this kind.*

THis way of Secret Writing, by *changing the Powers of Letters,* of purpoſe to confound the true Intent of a written Meſſage was very early in the World; and the Author of the *Secret and Swift Meſſenger* tells us much of the ancient *Jewiſh* Learning is wrapt up in it. Sec. and Swift Meſ. p. 69, 70.

Suetonius relates, That *Julius Cæſar* writ his Epiſtles of Moment, *per quartam elementorum literam,* (as that Author hath it) in this Order, See alſo *Aul. Gell. noct. Attic. l. 17. c. 9.*

Defghiklmnopqrs tuwxyz abc.
Abcdefghi klmnopqrs tuwxyz.

D being put for A, and E for B, *&c.* E, g.

Xlb Hqbpb mw mq kvhdx gmwrvqbv.
idoo ysrq xlbp zmxl doo hasbgmxmrq.

The Enemy is in great Diſorder, fall upon them with all Expedition.

Auguſtus Cæſar, in communicating his ſecret Intentions, *ſecundum elementum proprii loco ſubſtituit,* (i.e.) He put B for A; for B, he put C, *&c.* and for A, he uſed X X. thus;

XXabcdefghiklmnopqrstuwxy,
A bcdefghiklmnopqrstuwxyz.

This

This Tranſpoſition will appear fully as much a Stranger to the true meaning in an Epiſtle as any; notwithſtanding of the near Neighbourhood of the Letters that are expreſs'd, and underſtood.

It is ordinary in Secret Writing of this nature, to make uſe of ſome word, wherein one Letter is only once expreſs'd, to frame their Alphabet by, writing firſt the Word it ſelf, and after it the Letters wanting to compleat the Alphabet; and that either by two Lines at length, or by the Alphabet divided. E. g. Let *Liberty* be for the Key.

In two full Lines.

L i b e r t y a c d f g h k m n o p q s u w x z.
a b c d e f g h i k l m n o p q r s t u w x y z.

By the Alphabet divided.

L i b e r t y a c d f g
h k m n o p q s v w x z.

So that in Writing, *L* is uſed for *H*, and again *H* for *L*; they uſe *I* for *K*, and *K* for *I*, &c.

I have ſeen Tranſpoſitions of the Letters ſo ordered in framing an Alphabet, that the ſeeming barbarous words in the writing could be well enough pronounced in Speech, and would at firſt view appear to be ſome ſtrange kind of Language.

But why ſhould I enlarge upon Particulars? *Trithemius* his fifth Book contains nothing but Tables for *Tranſpoſitions*: and tho he had employed the whole time of his Life that way, he had left a vaſt variety untouched; for let the Alphabet ſtand in its natural Order, *viz.*

a b c d

a b c d e f g h, *&c.* for an *Index* to ſhew the Powers of the ſeveral poſſible Combinations of the twenty four Letters, to be placed oppoſite to it in Rows, and allowing five of theſe Rows to ſtand in an Inch meaſure: One end of this *Tabula tranſpoſitionis expanſa*, (when writ in a Scroul,) if reached to the *Man* in the *Moon*: Nay, to go farther, if *Mercury*, who once taught the uſe of Writing, had it, the other might remain with us: And beſides, the *Tranſpoſitions*, which muſt lie by the way thither, abundance of different Alphabets left for the Uſe of this lower World upon Occaſion.

To be ſerious, (according to the following Rules for combining any Number of Letters) you will find twenty four Letters have 620448401733239439360000 ſeveral Poſitions. And *Schottus* demonſtrates, (tho the Calculation in his Book be not exact) that a thouſand Million of Men in as many years could not write down all thoſe different Tranſpoſitions of the Alphabet, granting every one ſhould compleat forty Pages a day, and every Page contain forty ſeveral Poſitions: For if one Writer in one day write forty Pages, every one containing forty Combinations, 40 multiplied by 40, gives 1600, the Number he compleats in one day, which multiplied by 366, the Number (and more) of Days in a Year; a Writer in one Year ſhall compaſs 585600 diſtinct Rows. Therefore in a thouſand million of years he could write 585600000000000, which being again multiplied by 1000000000, the number of

Steganog. Claſ. 5. c. 5.

of Writers ſuppoſed, the Product will be 58560000000000000000000, which wants of the number of Combinations no leſs than

348484017332394393600000.

But thoſe are not all; for the Alphabet put for the *Index* is capable of 6204484017332394-39359999 Variations to each of the former Poſitions.

And beſides, many have uſed invented Characters, Arithmetical Figures, *&c.* to expreſs their Secret Intentions by. Thus *Pharamund*, King of the *Franks*, invading the *Gauls* about the Year 424. deviſed a new Alphabet for his own uſe: *Clodius* his Son and Succeſſor followed his Father's Example in contriving new Characters, for communicating his Intentions the more ſecretly: as alſo did *Charles* the *Great* and others. And ſome will have it, that *Ezra* invented the *Hebrew* Character upon ſome ſuch Motives. *Trithemius* has been at the pains of collecting a great many invented Alphabets, which you may ſee in his ſixth Book *de Polygraph.*

Trith. Polyg. lib. 6.

Gaſp. Schottus, in his *Magia Univerſalis*, propoſes an Invention he had found amongſt the ſecret Manuſcripts of *Kircherus*, how to write with Points or Arithmetical Figures. It is to this purpoſe; They divide the Letters of the Alphabet into a certain number of Parts; and to every Partition they ſubjoyn ſome different ſign or point, *v. g.*

Part 4. *lib.* 1. *Synt.* 6. *Prop.* 4. & 5.

1 2 3 4

1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4 5
a b c d	e f g h	i l m n	o p q r	ſ t u x z
,	;	:	.	?

Afterwards when they come to write, they firſt mark down the number of the Letters, as they ſtand in their reſpective Columns, that ſerve to expreſs their hidden meaning, and joyn to it the ſign of that Column e: g: 4, 1; 3? 1? 3? 1: 4, 1; 2? *Deus videt.* But he thinks it better, to mark the ſeveral Diviſions of the Alphabet with Figures thus:

1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
a b c d	e f g h	i k l m	n o p q	r ſ t u	w x y z
1	2	3	4	5	6

By help of this Alphabet, if the following Words were put in Cypher, *Princeps inſidiatur vitæ tuæ; fuge.* they will ſtand in this order; 43, 51, 31, 41, 13, 21, 43, 52, 31, 41, 52, 31, 14, 31, 11, 53, 54, 51, 54, 31, 53, 11, 21, 53, 54, 11, 21, 22, 54, 23, 21. Here either the number of the Letters in their ſeveral Claſſes, or the number under them, may be put firſt.

Nay, to come nearer, you may find three or four new Alphabets out of the Mint, in the Diſcoveries made in *Scotland*: but ſince the ſame Rules of decyphering will ſerve for all, I proceed.

SOLUTION.

First, *Distinguish the Vowels from Consonants.*

To proceed regularly herein, you must endeavour to *distinguish betwixt the Vowels and Consonants.* And first, the Vowels generally discover themselves by their frequency; for, because they are but few in number, and no word made up without some of them, they must frequently be used in any Writing: however, it may by accident fall out, that some of the Consonants shall be oftner found in an Epistle. 2. Where you find any Character or Letter standing by it self, it must be a Vowel; this holds in all Languages. 3. If you find any Character doubled in the beginning of a word, in any Language it is a Vowel, as *Aaron, Eel, Filt, Oogala, Vulture,* &c. except in some *English* proper Names, as *Llandaff, Lloyd.* 4. In Monosyllables of two Letters, one being a Vowel, you may distinguish it from the Consonant joyn'd with it by its *frequency,* &c. 5. In a word of three Letters, beginning and ending with the same Character, some Vowel is probably included; as, *did,* &c. except *ere,* &c. but *e* is easily known, being of greater use than any Letter, in the beginning, middle, and end of Words; as *see, ever, serve, deference, beseech, need,* &c. This will not hold in *Latin*; and as for the frequency of the Vowels in that Language, they are computed to serve thus in

any

any Writing: *e* and *i* of most use; next to these *a* and *u*; and *o* not so often as any of them; but upon the whole, the difference is but small. 6. When you find a Character doubled in the middle of a word of four Letters, 'tis probably the Vowel *e* or *o*, as *feel*, *good*, &c. and consequently the first and last Letters Consonants. 7. In Polysyllables, where a Character is double in the middle of a Word, it is for the most part a Consonant; and if so, the precedent Letter is always a Vowel, and very often the following. 8. *i* in *English* never terminates a Word, nor *a* or *u*, except in *sea*, *you*, &c. tho they be of much use in the beginning and middle of Words, as in *advantage*, *assassinate*, *diminish*, and the like. 9. These Vowels, *a*, *i*, *u*, are seldom doubled; and in this and the former, they are distinguishable from the Consonants most frequently used, such as, *d*, *b*, *n*, *r*, *s*, *t*. Most of those Remarks are calculated for the *English* Tongue.

Secondly, *Distinguish Vowels amongst themselves.*

To distinguish one Vowel from another, after you have made the most probable Suppositions in separating them from the Consonants, 1. compare their frequency, and *e*, as we observed before, is generally of most use in the *English* Tongue, next *o*, then *a* and *i*; but *u* and *y* are not so frequently used as some of the Consonants. 2. It is remarkable, that amongst the Vowels, *e* and *o* are often doubled, the rest

ſeldom or never. 3. *e* is very often a terminal Letter, and *y* terminates Words, but they are diſtinguiſhable, becauſe there is no proportion as to their frequency: *o* is not often in the end of Words, except in Monoſyllables. 4. *e* is the only Vowel that can be doubled in the end of an *Engliſh* Word, except *o* in *too*, *&c.* In *Latin* no Conſonant can be doubled in the end of a Word, and only the Vowel *i*. 5. You may conſider which of the Vowels, in any Language, can ſtand alone, as *a*, *i*, and ſometimes *o* in *Engliſh*, *a*, *e*, *o*, in *Latin*, or *i* the Imperative of *eo*.

3. *Diſtinguiſh the Conſonants amongſt themſelves.*

To *diſtinguiſh one Conſonant from another*, you muſt 1. (as before) obſerve their frequency. Thoſe of moſt uſe in *Engliſh* are *d*, *b*, *n*, *r*, *ſ*, *t*, and next to thoſe may be reckoned *c*, *f*, *g*, *l*, *m*, *w*; in a third rank may be placed *b*, *k*, *p*; and laſtly, *q*, *x*, *z*. In *Latin*, the moſt frequent Conſonants are *l*, *r*, *ſ*, *t*, next to theſe *c*, *f*, *m*, *n*, then *d*, *g*, *b*, *p*, *q*; and laſtly, *b*, *x*, *z*. 2. You may conſider what Conſonants can be doubled in the middle or end of Words. 3. What are terminal Letters, *&c.* and 4. The number and nature of the Conſonants or Vowels that can fall together, or do uſually follow one another.

Note, that if the ſame Character be uſed for *j* when a Conſonant, and when it is a Vowel, it may a little perplex ſome of the Rules for decy-

decyphering: but this Confuſion cannot happen ſo often, as to excuſe the prolixity of any other *Caveat* than barely to have mentioned it.

Additional Obſervations.

The great difficulty being once to come to the Knowledge of three or four Letters, (thoſe leading a man to the Knowledge of the reſt) endeavour to find out Words uſual in Writing, that have ſomething peculiar to them in the order of Letters; ſuch as, 1. A word of three Letters, beginning and ending with the ſame, may be ſuppoſed, *did*. 2. A word conſiſting of four Characters, with the ſame Letter in the beginning and end, is probably, *that*, or *hath*. 3. A word conſiſting of five Letters, when the ſecond and laſt are the ſame, is commonly *which*, though it may be otherways, as in *known*, *ſerve*, &c. And you may judge of the truth of ſuch *Suppoſitions* by the frequency of the Letters in the Word ſuppoſed.

Next, you may compare Words one with another, as *on*, and *no*, each being the other reverſed; ſo *of* and *for*, the laſt being the firſt reverſed, with the addition of a Letter; *for* and *from* will diſcover each other, *&c.*

You may likewiſe obſerve ſome of the uſual Prepoſitions and Terminations of Words, ſuch as *com*, *con*, *ing*, *ed*, &c. or in *Latin*, *præ*, *per*, *us*, *um*, &c. Note that *t* and *h* are often joyned in the beginning and end of *Engliſh*

Words, and ſometimes in the middle, *&c.*

I have not medled here with any Language but *Engliſh*; becauſe of the deſign'd Brevity of this ſmall Tract: However, by a little practice of decyphering in one Language, you may decypher an Epiſtle in any, even tho the plain Speech it ſelf be a Myſtery to you, if you firſt obſerve, the frequency of the Letters, the terminal Letters, what Letters can be doubled, in the beginning, end, or middle of Words; and ſuch general Rules.

And as to *Engliſh*, I have hereunto ſubjoyned one Example.

39. 38,31,21,35. 35,14,20,18,21,19,20,35, 54. 20,38,39,19. 32,35,31,18,35,18. 22,39, 20,38. 13,31,14,24. 20,38,39,14,37,19. 31, 19. 20,15. 20,38,35. 13,31,14,31,37,39,14, 37. 15,36. 20,38,35. 31,36,36,31,39,18. 18, 35,17,21,39,19,39,20,35. 36,15,18. 24,15,21. 20,15. 11,14,15,22. 18,35,13,35,13,32,35,18. 20,38,31,20. 15,14. 14,15. 31,33,33,15,21,14, 20. 24,15,21. 36,31,39,12. 20,15. 13,35,35,20. 13,35. 31,20. 14,39,14,35. 20,15. 13,15,18,18. 15,22,19. 14,39,37,38,20. 36,15,18. 22,35. 13,21,19,20. 14,15,20. 14,15,22. 34,35,12,31, 24. 20,38,35. 19,21,18,16,18,39,25,35. 15, 36. 20,38,35. 33,31,19,20,12,35. 22,38,35,14. 20,38,39,14,37,19. 31,18,35. 39,21,19,20. 18, 39,16,35. 36,15,18. 35,23,35,33,21,20,39, 15,14.

By practiſing the foregoing Rules, you will find that this method of *Secret Writing* in *plain Cypher*, may with as much eaſe, if not with as much ſpeed, be *decyphered* as *written*. The

The Secret Senſe of the Example given is this:

I have entruſted this Bearer with many things as to the managing of the Affair requiſite for you to know: Remember that on no account you fail to meet me at nine to morrows night; for we muſt not now delay the ſurprize of the Caſtle, when things are juſt ripe for Execution.

Note. When you are to decypher any Writing, begin with the ſingle Characters, if any be; next go to the Monoſyllables, or remarkable Words; take them out of the Epiſtle, and mark them down in a Paper apart.

We ſhall next conſider ſome ways that may be taken to fruſtrate the foregoing Rules of Diſcovery: and *ſeveral* have been inſiſted on to this purpoſe, that fall under this Section in the following Paragraphs.

¶ 2. *An Improvement of the former methods of* Secret Writing, *by leaving out Characters of leaſt uſe, and putting others in their ſtead that ſhall ſignifie the Vowels.*

This we have from the Author of the *Secret and Swift Meſſenger*: for (ſays he) *by this means the Number of the invented Alphabet will be compleat, and the Vowels, by reaſon of their double Character, leſs diſtinguiſhable.*

SOLUTION.

As for this difficulty, I muſt confeſs I cannot well comprehend it; for if the number of the Alphabet be *perfect*, how can *one* Character expreſs *two* Letters? and again, if *one* Character hath a *double* power, *viz.* of a Vowel and Conſonant, it would appear to me rather *more* than *leſs* diſtinguiſhable, by reaſon of its greater *frequency*: and having found *one* of the powers of a *double* Character, you may diſcover when it is uſed in another power, and then proceed as before; and withal, the common Particles, ſuch as, *the*, *that*, *of*, *and*, &c. will be written throughout all the Epiſtle, without any variation, in their reſpective Characters.

But further, if only the Letters of *leſs uſe* be *left out*, it will not make any *great* Alteration in an Epiſtle; and if you diſcover but one word in the whole, the Senſe will bring you through ſuch *little* Intricacies, eſpecially upon this Advertiſement, that an Epiſtle may be ſo contrived.

If Letters of *greater* uſe ſhould be laid aſide by compact, and others alſo of *great* uſe put in their ſtead to expreſs a *double* power, I believe the *Confederate* might have an equal diſadvantage by *this means* with the *Diſcoverer*, E. G. If the ſame Character ſhould ſignifie *o* and *u*, they cannot diſtinguiſh *ou* from *no*, &c. but by the Senſe of the Epiſtle, or ſome private mark: and why may not the *Decypherer* be as good as the *Confident* at the Art of Diſcerning?

And

And besides the notice given, that an Epistle *may be so contrived*, I shall add further, That any Writing contrived in this manner, *may* be easily *discovered to be so*, because the *usual* number of Characters must be wanting, and because of a *more* than *usual* frequency of some particular Characters; and you see that there is no insuperable difficulty to *decypher* it *when discovered to be so*.

¶ 3. *Of writing without any distinction between Words.*

The way of concealing the sense of an Epistle by writing continually without any distinction between the words, is mentioned by our last cited Author; and of late very much practised, particularly by the late Earl of *Argyle*. See the *Account of the Discoveries made in* Scotland, *&c.*

SOLUTION.

By this Intricacy, I acknowledge those helps we mentioned from *single Characters, Terminations*, or the like, are deluded; but you may however *distinguish, between the Vowels and Consonants, the Vowels one from another, as also the Consonants amongst themselves*: nay, you may make Suppositions for Words, *&c.* and having found two or three Letters, or one Word, the difficulty is over. I have often tryed it, and never found any new difficulty to arise from this

this *Defeating* way that requires other Rules, than what you have already for *Decyphering*.

¶ 4. *Of making false Distinctions in* Secret Writing.

This way is likewise mentioned in the *Secret and Swift Messenger, ibid. e. g.* if these words, *There is no Safety but by Flight*, were divided thus, *The, reisn, osa, fetyb, utb, y, fli, gbt.* and afterwards put in Character.

SOLUTION.

When you have any suspicion of a Fraud of this nature, you may proceed as if there were no Stop used.

¶ 5. *Of inserting Nulls or Non-significants.*

This Obscurity in Cypher is commonly proposed in Treatises for *Secret Writing*; and amongst other Authors upon that Subject, by the Lord ‖ *Bacon*. You will find it put in † Practice too.

‖ *Advancement of Learning, l. 6. c. 1.*

† *See Discov. in* Scotland.

SOLUTION.

As to this, it is necessary, 1. That you *take the number of the different Characters in the Epistle*: and if that exceed the Number of the Alphabet, 'tis *probable* Mutes are intermix'd with the significant Letters.

I have

I have ſaid *probable*, becauſe there may be Characters inſert to expreſs Relatives, Syllables, *&c.* of which hereafter.

2. *Obſerve the frequency of the ſeveral Characters.* And by this means you may diſtinguiſh thoſe Nulls from ſignificant Letters; for 'tis obvious, that if *many* inſignificant Characters be uſed, they ſhall *not* be frequent; at leaſt moſt of them ſhall be but rarely inſert, which will do no great feats: If only a *few* in number, and conſequently their places the *more* frequent, they are yet by Suppoſition *diſtinguiſhable* from the Vowels and Conſonants of moſt uſe in Writing; eſpecially if you conſider the *Order* and *Coherence* amongſt the ſeveral Characters. This admits of no particular Rules; nor will the *Judicious* need any.

3. After you have found out the real Alphabet, or all the Mutes, there is no new difficulty.

¶ 6. *Of* Secret Writing *by the Key Character.*

There is an Invention of Secrecy much inſiſted on (though none of the ſwifteſt) by the Author of the *Secret and Swift Meſſenger*, and others, beyond any yet mentioned, for Intricacy, wherein each particular *Line*, *Word*, or *Letter*, is written by a new Alphabet: but the cited Author himſelf acknowledges it too tedious for a current Correſpondence; which cannot be entertained this way, but at a vaſt expence of Time and Trouble, to put it in, or take it out of Cypher even by the Key; and ſe-

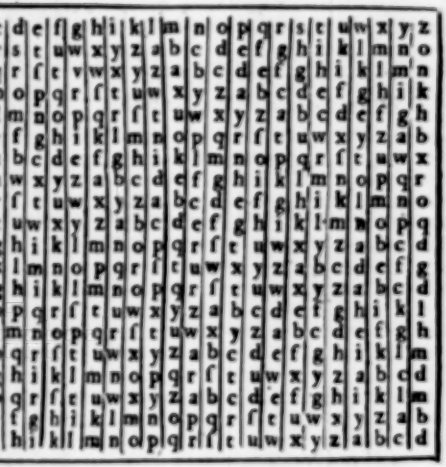
cret

cret Information, in ſeveral Exigencies muſt be ſpeedy or unprofitable: ſo that in effect it is unpracticable for the end it is deſign'd for.

However, leſt it ſhould obtain too much credit if ſuppoſed undecypherable, its Difficulties ſhall be conſidered.

But firſt, the way of writing by it is this: The Confederates condeſcend upon ſome Word or Sentence that ſhall lock and unlock their Miſſives; or the Key may be ſent in the Letter, in ſome Word or Sentence privately marked, or by compact agreed on, ſuch as the firſt or laſt Line, *&c.* to ſerve for the Key. Suppoſe then it ſhould be *Policy's Prebeminence*, there muſt be ſeveral Alphabets framed for each of its Letters in manner following.

1 A b



If they agree, that the Lines only ſhall be writ by a new Alphabet, the firſt line ſhall be made according to the firſt Alphabet A. P. the ſecond line according to the ſecond Alphabet, *viz.* A. O. the third Alphabet is A. L. *&c.* the firſt Line being an *Index* ſucceſſively to all the reſt. And when they have gone through the Table, they may begin a-new, or go backwards again, *&c.*

If Words are only writ by one Alphabet, then every new word is writ by a new Alphabet: and ſo of Letters. I have hereunto ſubjoyned an Example for each: *viz.*

1 Example in the Lines.

Y ph vdgrts id zste ixt Hdaſytgh
ideb wofr rihm obr rihm rxſh
dfaawi fd zc eſpi gtwrw cpfzwe ez
eqn Nwuxg bynnmrtg. qibc.

I am forced to keep the Soldiers
upon hard duty and hard diet:
Supply us, or they will revolt to
the Enemy ſpeedily. Haſt.

SOLUTION.

1. When there is only one Alphabet uſed for a Line, the Writing might be diſcovered as in plain Cypher, if you make a new Operation for each line. But there may be other ways to decypher any ſuch Writing: for,

2. If you find out but one Letter in a Line, (and that may certainly be done by a few Suppoſitions) it will of it ſelf give an Alphabet for that whole Line, as you may perceive by the *Counter-Table*, which follows: for, the Confederates Table being framed, ſo as the firſt line may be an *Index* to all the reſt of the Lines which are ordered by ſome Word or Sentence that is the Key, every Letter of ſuch a Word or Sentence muſt be once ſuppoſed to ſtand for A. Now in the Counter Table you ſee all the Letters in the Alphabet to be once ſuppoſed A: Therefore you need only to ſearch for

for *I* in the upper line of it, and try in what line *Y* is oppoſite to it; and thoſe two Lines give you an Alphabet. Or ſet down the Letter found under the Letter that expreſſeth its true power, and compleating the laſt line, you have the Alphabet. *E. g.* If you ſuppoſed *Y* in the Example given to expreſs the power of *I*, firſt write down the twenty four Letters in their uſual order, and under *I* place *Y*; then going on in order, your Alphabet is this for the firſt line.

A b c d e f g h i k l m n o p q r s t u w x y z
L m n o p q r ſ t u w x y z a b c d e f g h i k
P q r ſ t v w x y z a b c d e f g h i k l m n o

The

The Counter-Table.

1	A	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z
2	B	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a
3	C	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b
4	D	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c
5	E	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d
6	F	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e
7	G	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f
8	H	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g
9	I	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h
10	K	l	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i
11	L	m	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k
12	M	n	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l
13	N	o	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m
14	O	p	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n
15	P	q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o
16	Q	r	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p
17	R	ſ	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q
18	S	t	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r
19	T	u	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ
20	V	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t
21	W	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u
22	X	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w
23	Y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x
24	Z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	ſ	t	u	w	x	y

This Table needs not much Explanation, being but a Collection of ſuch Alphabets as you may frame by your ſelf upon every new ſuppoſition.

Having found one Alphabet for the firſt line, you have likewiſe by this means the firſt Letter of the Key. *e.g.* In the fifteenth line of the Table, ϒ ſtanding againſt *I*, and *P* beginning that line (as you may perceive) *P* muſt be the firſt Let-

Letter of the Key; and if you peruſe the following Collection of what Letters can be joyned in the beginning of Words, you will find *a, e, h, i, l,* or *o,* &c. muſt follow *P*: ſo that at worſt to get another Alphabet for the next Line, it will coſt but ſo much Pains as to make Tryal of all thoſe Letters by Suppoſition; as firſt, what Letter in the firſt Line is againſt *i*, in the fifth Line beginning with *E*, (for *A* cannot regularly follow *P* in this particular method, elſe the Letters in the ſecond Line of the Writing, ſhould have their uſual Signification without any Tranſpoſition;) and finding that *E* cannot be the ſecond Letter of the Key, becauſe the Cypher from that Suppoſition is in as great confuſion as ever, next try what Letter is oppoſite to *i* in the line *H*. Still ſuppoſing a new, untill you find the ſecond Line to produce Senſe. And ſo of all the reſt.

Or you may take the ſame Meaſures from the Letters or Syllables *found*, in the Writing it ſelf.

Or you may proceed to find the Alphabet of the ſecond, third, or any other Line, as you did for the firſt; *viz.* ſearching after the Power of ſome Letter in the ſecond Line, by the ordinary Rules; and according to the greateſt Probability, in that ſearch; from the *frequency of the Letter*, or other help, to make Tryal by your Counter-Table.

2 Example in the Words.

Y oa qxcnpo cx mggr rfc Lgdwbxkl
kedc xrirv hzyc bvl mewh puqf
bdyytg bf ſw gvrl ylnn wizſpy id
bws pypxi bymmrtg. kcvw.

SOLUTION.

When the Alphabet is changed at every word, you may either make Suppoſitions from *Words*, or from *Letters* that fall in the end or beginning of the ſeveral Words in the Writing, until you have made ſome progreſs in the Letters of the Key; and then proceed as before.

You may likewiſe find out by Suppoſition, the number of Letters in the Key, *&c.* which will much facilitate the work. Thus:

1. Having found an Alphabet for the firſt, ſecond, or indeed any word near the beginning of the Epiſtle, go through all the immediate following Words, until you find another that is decyphered by the ſame Alphabet.

2. From the laſt found Word count the like number, and you have a new word decypherable by the found-Alphabet: and thus you may go on until you have once gone through the whole Writing, marking the whole Series with ſome peculiar mark: And then,

3. Begin the Epiſtle again at ſome Word immediately before or after that which was firſt

first found, and count forwards as before, until you come to the end of the Epistle.

4. Afterwards observe the same method, until you have distinguished the whole Writing, giving each respective Series of Words some particular mark of Distinction. And in end having found out but one Letter in such a Series of Words it gives an Alphabet to decypher all that Series by, as was observed in *Lines*, &c. *e.g.* *Y* therefore, the first Word in the Example, expressing the Power of *I*; you shall find the twentieth Word *id* decypherable by its Alphabet, *viz.* A. P. and consequently *bws*, the one and twentieth Word in the Writing, but twentieth after *oa* the second Word, to have one Alphabet with it; and in the same order *pypxi* to have one Alphabet with *qzcnpo*; and *bynnmrtg* and *cx* to be denoted by the same Alphabet, *&c.*

Now if the Writing were long (as it must be to contain *Proposals*, *Emergencies*, and other Circumstances) the use of the foregoing Observation will be worth the consideration.

But there is an Exception to these Rules; for you will see in the Example, that the first Word *Y* and the seventh Word *Ljdwbxkl* are are writ by the same Alphabet, but not the seventh from that, *viz.* *puqf*, nor the seventh from *oa*, *viz.* *kede*, &c. and the reason is, because the Letter *P* is twice repeated in the Words of the Key. So that when you find this happen in decyphering, leave such Words, and go to the next, until you find the true number

Note

of Letters that make up the Key by the former Rule; and then this difficulty becomes a help in the Operation, *&c.*

Example in the Letters.

Y ox oqpvtv yw oqnc yvg Xdzwrgpl
kgſn mmaq hhwc pbo qcpw ſaib
xgycpl xx df eqgw oycp, zigxyy gq.
yxs pwgkq hgimhvtl: mmvy.

SOLUTION.

To decypher this laſt kind of Secret Writing, you muſt begin with Suppoſitions; and

1. Extracting out of it the Monoſyllables, *&c.* you may ſuppoſe all the Words in it of three Letters ſucceſſively to ſtand for *the*, or *and*, &c. and you may prove your ſeveral Suppoſitions thus: *viz.* 1. Mark down the Powers ſuppoſed. 2. Obſerve in what Lines of your Counter-Table the Letters expreſs'd in the Cypher are oppoſed to them in a perpendicular Line. 3. Obſerve the firſt Letters of thoſe Lines, and you will ſoon find whether they can be joyned to make up a part of the Key: *e.g.* Let *yvg* in the firſt Line of the Example be ſuppoſed, *the*, *y*, is oppoſite to *t* in line fifth, beginning with *E*; *h* to *v* line thirteen, beginning *N*; and *e* to *g* line third, beginning *C*. So that having found *enc* in the beginning of theſe ſeveral lines, it is probably ſome part of the Key.

2. You

2. You may proceed in the ſame manner to other Monoſyllables, *&c.* in any part of the Epiſtle; or you may conſider what Letters can follow *enc*, and thus *e* being moſt probable, look in that Line of your Table beginning with *E*, for *x* the following Letter in the Cypher, and its oppoſite Letter in the upper Line, which is *S*; and afterwards you may go on with probable Suppoſitions, either from the Letters found in the Key or in the Writing.

Perhaps theſe Methods will not ſo readily give you the entire Key, yet they are good helps.

You may otherways begin your Suppoſitions with the firſt Letters in the Writing; and for that end, I have hereunto added, in an alphabetical Order, the Letters that can be joyned together to begin Words.

And from all together, you may in a ſhort time find out the number of Letters in the Key; and here that is of as much uſe as in the other ways of writing by the Key Character, ſince thereby you have the ſeveral Returns of each Alphabet. Now follows the Table.

	Beginning a Word is regularly followed by
A	moſt of the Letters.
B	a, e, i, l, o, r, u, y.
C	a, e, h, i, l, o, r, u.
D	a, e, i, o, r, u.
E	moſt of the Letters.
F	a, e, i, l, o, r, u, and ſometimes y.
G	a, e, h, i, l, n, o, r, u, y.
H	Vowels only.
I	moſt of the Letters.
K	a, e, i, n.
L	Vowels only.
M	Vowels only.
N	Vowels only.
O	moſt of the Letters.
P	a, e, h, i, l, o, r, ſ, ſometimes t, u, y.
Q	only by u, and QU by a, e, i, o,
R	a, e, ſometimes h, i, o, u, y.
S	a, c, e, h, i, k, l, m, n, o, p, q, t, u, w, y.
T	a, e, h, i, o, r, u, w, y.
U	ſometimes d, and g, l, m, n, p, ſometimes r, ſ, t, x.
V	Vowels only.
W	a, e, h, i, o, r, y.
X	ſometimes a, or e.
Y	e, ſometimes i, o.
Z	e, ſometimes o.

Here I have only inſert the Letters of the Alphabet on the left hand, and ſuch Letters, as can immediately follow any of them, beginning a Word oppoſite to it.

It

It had been the leaſt part of the Trouble of this Undertaking, to have contrived Tables for Monoſyllables, Terminations, *&c.* and that in moſt Languages; but I rather feared a Cenſure, than hoped for Thanks from the Ingenious, to crowd Tables into this ſmall Tract: and if it be reputed a Defect, it is ſuch an one that a very ordinary Capacity may ſupply by help of Dictionaries only.

But to return to the method of Secret Information in hand, it is eaſily diſcernable from any other. *e.g.*

When the Alphabet is *changed for every Word or Letter*, the *Frequency* of the Letters will not agree with that in an Epiſtle writ in *plain Cypher*, where *one Character always expreſſeth the ſame power*: For, as to this laſt, you ſhall but rarely find two or three Characters of the ſame frequency; but by a continual altering of the Alphabet you ſhall have a great many, *e. g.* In the laſt Example you have no leſs than ſeven different Letters twice repeated, *viz. a, b, d, k, ſ, t, z*, three Letters thrice repeated, two Letters four times repeated, three Letters five times repeated, three Letters ſeven times repeated, and two Letters nine times repeated.

Again, in one line of an Epiſtle where the Alphabets are continually altered, you ſhall have more differing Characters than in two where one Alphabet is only uſed in the whole Writing. *e. g.* In the Example you have the compleat number of the Alphabet, whereas in the Writing (*viz.*

I am forced to keep the Soldiers upon hard Duty and hard Diet: Supply us, or they will revolt to the Enemy ſpeedily. Haſt.)

there are wanting, *b*, *g*, *q*, *x*, *z*.

We have already obſerved, that this method of Cryptography requires too much time to be put in practice: but beſides, it is not only unpracticable upon that ſcore, for by the leaſt miſtake in Writing, it is ſo confounded, that the Confederate with his Key ſhall never ſet it in order again; and withal, 'tis liable to ſuſpition: ſo that it has none of thoſe things required in Secret Writing, except that there is difficulty in decyphering it; and that not inſuperable, as is made apparent.

¶ 7. *Of communicating any Secret Intention with the ordinary Letters, by help of a few Figures.*

Schott. Mag. Univerſ. part 4. pag. 65, 66, *&c.*

The following way of Secret Writing is propoſed by *Schottus*, who tells us, that he had it of Count *Grenfeld*: It would ſeem to fruſtrate the Rules for decyphering already mentioned, and therefore have I inſert it. The Method is this:

1. The Confederates diſpoſe the Letters of the Alphabet in a Line or Circle, over which they place any number of Figures, *v. g.* 436. in this manner.

4 3 6

a b c d e f g h i k l m n o p q r s t u w x y z.

2. They

2. They write their Secret Intentions on a Paper apart, and over the tops of the Letters they place the number of Figures agreed on. Let the Words be these.

The Governor of the City is beyond Corruption, so that we may conclude there is nothing of Bribery will serve the turn.

Which Words, according to the Example, will stand thus:

436 43643643 64 364 3643 64 364364
The Governor of the City is beyond
3643643643 64 3643 64 364 36436436
Corruption, so that we may conclude
43643 64 3643643 64 36436436 4364
there is nothing of Briberie will
364 36 436 4364
serve the turn.

3. Observe what Figure stands over the first Letter of the Writing, (*viz. T*) which is 4. and counting forward as many Letters, write down the fourth, *viz. x*; again see what Figure is over the second Letter (*v.g. b.*) which Figure is 3; then counting three Letters from *b*, the third is *k*, next write down the sixth Letter from *e*, which is also *k*; and so they proceed, always observing the Letters in the Writing to be secretly communicate, and the Figures above it, until they come to the end of the Epistle. The Example being finished will stand thus:

xkk kqabtsrt ti wnb eoxa ow dkbqsg etvtaswo-
rp yr wndw bh ofb etqeqjfk xkkvg ow ptxkoqi
ji dxmdkvlk zlqo vkvxk xkk xxxq.

SO-

SOLUTION.

To decypher this kind of Secret Writing, you may,

1. Transcribe the Cypher out of the Epistle, keeping the lines and letters at such a distance one from another, that each letter may admit of a Figure distinctly above it.

2. Endeavour to find the number of Figures in the Key which must be enquired into by several Suppositions.

3. The number of Figures being supposed, *E. g.* 3. take any three Figures, *v. g.* 123. and place them above the tops of the Letters in Cypher in this order.

123 123123123 31 231 23123 31 231231
xkk kqabtfrt ti wmb eoxa ow dkbqfg
23123123123 31 23123 31 231 231231231
etvtafwrp yr wndw bb ofb etqeqyfk
12312 31 231231231 31 231231231 12331
xkkvg ow ptxkoqi ti dxmdkvlk z/qo
231231 123 12331
vkvxk xkk xxxq.

4. Observe where the same Character and the same Figure happen to fall together, and you will find that thus it always expresseth the same Power as in the Example; K with 3 placed above it has the Power of E through the whole Writing; X with 1 upon the top of it signifies H, *&c.* But,

5. The same Letter when its Figure is altered cannot express the same Power, *e.g.* Q with 1. ex-

expreſſeth N; but Q with 2 ſignifies O, and Q with 3 L, *&c.*

6. One and the ſame Letter will be expreſt by different Characters, *e.g.* Q with 2, R with 1, and T with 3, expreſs ſeverally O in the Writing.

7. Two Letters of the ſame power cannot be joyned together in the ſame Character; and conſequently, where you find any Character double in a Writing of this nature, it expreſſeth different Powers.

8. Having made theſe or the like general Remarks, you may proceed to diſcover particular Syllables or Words as in the preceding Paragraphs; and having one, you will find with it the true numbers that are contained in the Key, at leaſt ſome of them, which will diſcover the reſt.

It is almoſt ſuperfluous to add, That in your ſeveral Operations you muſt count the Letters *backwards*, ſince I have told you, that regularly the Cypher is writ *forwards*: but becauſe the Cypher may be otherways contrived, you may try both ways, *&c.*

¶ 8. *Of Secret Writing by Points, Lines,* &c.

The Secrecy in an Epiſtle may conſiſt in Points, Lines, *&c.* which are diſtinguiſhable one from another by their place, not their figure; all of the ſame Situation (whatever the nature of the Figure be) expreſſing the ſame Character. *v.g.* Suppoſe the Paper to be writ upon,

upon, be secretly divided into twenty four equal parts, according to the breadth of a plate upon which the Letters are described; and then by Application of this to the Epistle, 'tis easie to conceive the way of writing it. This is published in the *Secret and Swift Messenger*, p. 92.

SOLUTION.

This contains no great nor new Intricacy; for you may extract the Points, *&c.* that fall in the first perpendicular Line in any Character, and the Points that are in the next perpendicular line by a differing Character, and those Points in the third line by a third Character; and so for all the rest, until you come to an end or rather the side of the Epistle, towards the right hand; and then 'tis resolvable by the common Rules.

Having now removed the most material Difficulties under this Section, I proceed to

SECT.

SECT. 2.

Of Secret Writing, by altering the Places of the Letters, where the Powers remain the ſame.

BIſhop *Wilkins* obſerves, That the *Difference* of *Characters* in the World, is part of the *General Curſe* upon their once *one* Tongue; and from the Parity of Reaſon we may infer, that the *different methods* of writing thoſe Characters is ſo too. Sec. and Swift Meſ. P. 88.

The Oriental Languages, *Hebrew*, *Chaldaick*, *Samaritan*, *Syriack*, *Arabick*, *Perſian*, *Coptick*, &c. are writ from the right-hand to the left, only the *Ethiopick* and *Armenian* proceed from the left to the right-hand.

As alſo do all the Occidental Languages, *Greek*, *Latin*, *French*, *Spaniſh*, *Italian*, *German*, *Engliſh*, *Sclavonick*, &c.

At firſt the *Greeks* writ from the left to the right-hand, and again from the right to the left, forward and backward: Hence *Literas exarare* ſignifies *to Write*, a Metaphor taken from Plowing of Ground.

Thus the ſenſe of an Epiſtle in a known Language might be perplexed, if the writing ſhould be contrived after the method of writing ſome Foreign Tongue. And we have this Example from the *Secret and Swift Meſſenger*.

T	i	l	w	e	l	d	f	r	c
h	t	l	ſ	ſ	o	o	t	e	i
e	ſ	e	u	h	h	u	u	ſ	l
p	h	n	t	a	o	t	o	h	p
e	t	c	ſ	l	t	h	h	a	p
ſ	o	r	g	l	e	e	t	n	u
t	d	e	n	n	l	i	i	d	ſ
i	e	a	o	o	b	e	w	ſ	y
l	c	ſ	m	t	a	ſ	e	p	d
e	n	e	a	b	e	i	g	e	e

Here the Rows are put inſtead of the Lines: And if you begin at the firſt Letter towards the left-hand, and read down that Row of Letters, then read the next upward, and the following down again, and ſo to the end, you will find theſe Words:

The Peſtilence doth ſtill encreaſe amongſt us; we ſhall not be able to hold out the Siege without freſh and ſpeedy Supply.

This is ſaid to be the ordinary way of writing amongſt the Inhabitants of the Iſland *Tarprobane*, *China*, and *Japan*.

This manner of Secret Writing is but ſlenderly touched by any Author I have ſeen on that Subject: and had it not gotten greater Perfection by private Practice than open Inſtructions, I had ſaved the Reader and my ſelf the Trouble of expoſing it to the Publick.

¶ 1. *Of the Combination of three or more Letters.*

The firſt remarkable Improvement I find of this kind of Cryptography by *altering the places of Letters*, is by *the regular Combination of three, four, or more Letters*: I had it of a Gentleman, who (I am fully ſatisfied) would put it to no bad *uſe*; but ſince it may fall into bad *hands*, I have his leave to provide againſt its harm. And that we may proceed regularly therein, it is neceſſary, firſt to enquire, *How many ſeveral ways any given number of Letters may be combined?* (*i. e.*) How many different Poſitions they can regularly admit of. And for that end I have hereunto ſubjoyned the following Table.

Table

Table of Combinations.

Letters		Several ways
1		1
2		2
3		6
4		24
5		120
6		720
7		5040
8		40320
9		362880
10		3628800
11		39916800
12		479001600
&c.		

May be combined

Conſtruction of the Table.

1. At the left-hand of your Table ſtands a Rank of Figures expreſſing the number of Letters to be *combined*, encreaſing in an Arithmetical proportion from Unity, or 1. and by the common exceſs of 1, or Unity.

2. To the right hand of theſe ſtands the number of *Combinations*, or ſeveral ways they can be combined.

3. As for 1, being it has but one Poſition, I ſet 1 oppoſite to it in the Rank of Combinations.

4. I

4. I multiply 1, in the Column of Combinations, by two, in the Column of Letters, and set the Product, *viz.* 2, oppoſite to it, which ſhews how often two Letters or Things can be combined, *viz.* two times.

5. I multiply 2 in the Row of Combinations, by 3 in the Column of Letters; and over againſt it I ſet 6 the Product, which ſhews that three Letters have ſix regular Poſitions or Combinations.

6. I multiply 6, the laſt number of Combinations, by four, the number of Letters, marking down 24 the Product, as in the Table. And thus I proceed, multiplying each laſt product by the next ſuperior number of Letters, and writing the ſeveral Products againſt their reſpective Multipliers; and theſe Products ſhew how many Poſitions their oppoſite number of Letters have, as 5 have 120 ſeveral Poſitions, 6 admits of 720, *&c.*

Demonſtration.

1. It is manifeſt, that one Letter or Thing has but one Poſition, and two Letters have twice the Poſition of 1, *viz.* once before and after it. *e. g. A B, B A.*

2. From the Combination of two Letters we find that of 3; for the new Letter added is three times applicable to the former Poſitions, *viz.* in the beginning, middle, and end, *e. g.* the Letter C being joyned with A B, the firſt combination may be C A B, and the ſecond

 C B A.

CBA. Again put C in the middle, and it yields other two differences, *viz.* ACB, BCA. And when C is put in the laſt place, you have a fifth and ſixth Difference, *viz.* ABC, BAC.

3. From the Combination of three Letters ariſes that of four Letters; *viz.* ABCD: for D can be four ſeveral times applied to each of the former ſix Differences; *e.g.* in the firſt, ſecond, third, and fourth or laſt place.

4. From the twenty four Combinations ariſing from four Letters, you have that of 5; *e.g.* if the Letter E be added, it is five times applicable to each of the former twenty four *regular* Poſitions: and ſo for any other Number in *infinitum.*

I have ſaid *Regular* Poſitions, becauſe any number of letters or things may be *irregularly* varied in their Poſitions very much above this Order; as for Example, AB is capable of theſe irregular Variations, AA, AB, BA, BB; and at this rate, three Letters have no leſs than 27 Poſitions in all, *viz.* ſix regular (as before) and twenty one irregular Poſitions. But of this when we come to treat of *Secret Writing by more Characters than are uſually required to the framing of Words.*

¶ 2. *A new Method how to Write Secretly by the Art of Combinations.*

1. To write Secretly by the method propoſed, a certain number of Letters are combined to lock and unlock the Epiſtle. The differences

ces of writing down the Positions, as, which shall be first, which second, which third, &c. in order, may be varied to a vast number; *e.g.* three Letters ABC, having six regular ways of Combination; these six Positions are capable of 720 several Orders, for the Rows may be combined amongst themselves, the same way as Letters. Therefore,

2. The Order of the Rows is agreed upon at parting.

3. The number of Letters combined, which is the Key, may be express'd in the Epistle by some Mathematical Figure, as △ for three Letters, □ for 4, &c. or by some other private Mark.

4. They frame a Rectangular Table of as many Columns as there are Letters combined.

5. The Letters so combined, are placed in their natural order upon the top of the Table.

6. Having determined of how many lines the Table shall consist, the order of the Combinations agreed upon is set down in a Row, in the first Column towards the left hand; as you may see in the following Table.

7. The Table being thus prepared for Writing, they observe the order of the Combinations, and write according to its Direction.

8. When they have placed one Letter in every Column of all the lines, they begin a new, and so go on until the Writing be finished.

9. And laſtly, they take the letters out of the Table according to their Partitions, as ſo many barbarous Words, upon a Paper apart, and ſend it to the Confident.

Example.

Let the Key for the number of Letters combined, be a Triangle; and the Subject of the Writing,

We are big with Expectation to know the Succeſs you have had, whether the Arms you have undertaken for will be ready upon Occaſion. Let your next be writ by the ſquare Key.

Form of the Table for Writing.

Order of Poſitions.		A	B	C
1	CBA	*a t ſ a ſ k d e t*	*e c e h m a a l i y*	*w e b e r t e n r e*
2	CAB	*e t c w o n u y y*	*b i c h u f p o t*	*r a u d j e y t b*
3	ACB	*j o e e h o o u b*	*w t ſ k v w o n s*	*g n ſ t a r n r e*
4	BCA	*h n u t n l a t a*	*i o y e e i c e q*	*t k o r u l c x u*
5	BAC	*x w a e e e i e d*	*e o h h d h ſ h r*	*p t v a r r o w k*

A further Explication of this Table.

CBA, being the firſt Poſition, *(W)* the firſt letter in the Writing is placed under C in the laſt Column, and *E*, being the ſecond letter, is put under B in the next Column, and *A* the third letter, under A. CAB,

CAB, being the ſecond Poſition, the fourth Letter in the Writing, *r*, falls in the ſecond line under C, the fifth Letter, *e*, under A, and the ſixth, *b*, under B in its Column, all in the ſame line.

ACB. being the third Poſition, the ſeventh letter in the Epiſtle, *i*, is put under A in the third line, the eighth letter *g*, under C, and the ninth letter *w*, in the Column B.

And ſo they go through the writing always beginning again, when they are at the end of the Table; ſo long as there is any thing to write.

The writing taken out of the Table will ſtand thus:

. . . . . .

△ *Atsaikdet. ecebmaaliy. webertemre.*

. . . . . .

etcwenuyy. bichufpot. raudyeytb. ioeeboouh.

. . . . . .

wtsbowons. gnstarnre. bnutnlata. ioyeeiceq.

. . . . . .

tkorulcxu. xwateeetee. eobbdbsbr. ptvarrowk.

The terminal Letters may be ſo marked to prevent Confuſion.

I have inſiſted the more upon this Method, becauſe the manner of Combining, and the way of Writing by ſuch Combinations being once perfectly underſtood, the Rules for Decyphering may be the more ſuccinct, and the more eaſily comprehended.

SOLUTION.

1. If the Figure of the Key be prefix'd to the Epiſtle, expreſſing the number of Letters combined, take as many Letters out of the firſt places of ſeeming Words in the Epiſtle, as ſhall be equal to that number ſo expreſt; and you may ſoon find out their true Order without the trouble of a new Combination, tho the trouble of combining be not ſo very great, as the diſcovery of a treaſonable Deſign may be of Importance to the Publick.

Thus in the Example given, you have △ (which being ſuppoſed to ſhew that three letters are combined) extract the three firſt letters from the three firſt ſeeming words of the Epiſtle, *viz.* *a e w*, here at firſt View you may perceive the Order. Then taking out the next three Letters, *e b r*, you have *a* for the firſt letter of the word from the firſt line, and *e* for the laſt letter; and then you are only to conſider whether *b* or *r* is the middle Letter, which is eaſily determined; ſo *b* (being left out there) muſt be the firſt Letter of the next word: Thus you may proceed; for it's needleſs to enlarge in a Caſe ſo plain.

2. If there be no Key given, take the number of Partitions of ſeeming words in the Epiſtle, and find out their ſeveral Diviſors, which may be performed by the following Rules.

How

How to find out the equal Diviſors of any Number.

1. *Divide the Number given by ſome Prime Number* (*i. e.*) ſuch a Number that cannot be divided, but by it ſelf, or Unity; and the *Quotient by ſome or other prime Number, and the laſt Quotient again by a prime Number; and ſo go on until the laſt Quotient of all be one*; and thus you ſhall find a certain Number of *prime* Diviſors.

2. *Make a rectangular Table that ſhall conſiſt of as many Columns as you have prime Diviſors, which you muſt place one after another at the Tops of the Columns*; and by help of them you will find all the reſt of the Diviſors, *viz.*

By multiplying the firſt prime Diviſor towards the left hand of the Table by the ſecond, and writing the Product under the ſecond. Next, *By the third prime Diviſor, multiplying all the Figures in the Table towards the left Hand, ſetting the ſeveral Products in the third Column*: And ſo forth, throughout all the prime Diviſors; but with this Caution, *That one Product be not written twice.* And in end, the ſeveral Numbers in your Table will be all the *Aliquot* Parts, or juſt Diviſors of the given Number.

Example to find out all the Diviſors in 450.

450	225	75	25	5	1
2	3	3	5	5	

The firſt Line contains the firſt Dividend, and the reſpective Quotients; the loweſt line is the ſeveral prime Diviſors.

Now 450, the Number given, being divided by 2, a prime Diviſor, the Quotient is 225, which being divided by 3, you have 75 for a new Quotient; and that again divided by 3, you have 25 for another Quotient. This laſt divided by 5, gives 5, which being a prime Number, you have 1, or Unity in the laſt Quotient of all: So that your prime Diviſors are, 2, 3, 3, 5, 5, all which ſet down in the Tops of the Columns, and multiplying them according to the Rule given, the Operation will ſtand thus.

2	3	3	5	5
	6	9	15	25
		18	30	50
			45	75
			90	150
				225
				450

All

All the Diviſors of 450, are 2, 3, 5, 6, 9, 10, 15, 18, 25, 30, 45, 50, 75, 90, 150, 225; and one of them (ſuppoſing the Epiſtle to have conſiſted of 450 ſeeming words) ſhould have been the number of Letters combined for the Key: For the number of ſeeming words in ſuch an Epiſtle, is equal to the Rectangle made of the Figure of the Key, or number of lines; and conſequently the Figure of the Key, or number of Letters combined, is ſome *aliquot* part, or equal Diviſor of the number of ſeeming words.

But to ſave all trouble in ſearch of the Key, you may take out a certain number of letters out of the firſt places of the ſeeming words: Write them down in a line; next, take juſt as many Letters out of the ſecond places of the ſame Partitions, and then the Letters out of the third, fourth, fifth places, *&c.* placing them directly one under another in order; or rather for Diſpatch, take out the ſeeming words, and write them down in Rows, beginning at the firſt, and then proceed to the ſecond, third, fourth, fifth, *&c.* until you have gone through them; and if the Number be too great, take as many as you think fit at a time, placing all the Dots you find above the Heads of the letters at their ſides. E. g.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	A	e.	w	e.	b	r	i	w	g.	h.	i	t	x	ę	p
2.	t	c	e	t	i	a	o	t	n.	n	o.	k	w.	o	t
3.	f	e.	h	c	c	u	e	s.	s	u.	y	o	a	h	v
4.	a	h	e.	w	h	d.	e	h	t	t	e	r.	e.	h	a
5.	s.	m	r	o	u.	y	h	v	a	n	e.	u	e	d	r
6.	k	a	t	n.	f	e	o	w	r.	l.	i	l	e.	b	r
7.	d	a	e	u	p	y.	o	o	n.	a	c	c	i	s	o
8.	e	l	n.	y	o	t.	u	n	r.	t.	e	x	ę.	b	w
9.	t.	i	r	y.	t	b	h	s	e.	a	q	u	e.	r	k
10.	—	y.	e	—	—	—	—	—	—	—	—	—	—	—	—

I have marked the Lines and Rows with Figures for their more eaſie diſtinction.

Having brought the Writing into this Order;

1. Search in the ſeveral Lines for ſome of the Particles of that Language you ſhall ſuppoſe the Epiſtle to have been writ in: If in Engliſh, make Suppoſitions, *E. g.* for ſuch little words, as, *the, that, for, of, to, and,* &c. and the like, without ſome of which no man can well expreſs Buſineſs of any moment.

2. Having ſuppoſed in any of the Lines for ſome one of thoſe mentioned, or the like Particles, you may prove the Truth of your Suppoſition, by taking out the oppoſite Letters of all the other Lines: And if they do not make up Words, or Syllables, or produce ſuch Letters as can probably follow one another in that Order, your firſt Suppoſition is falſe, and you muſt ſuppoſe anew.

3. Ha-

3. Having by fresh Suppositions found some usual Word: And the letters of the other lines (in the same Order) agreeing, the Words or Syllables arising from them, will direct you to some new Row that goes before or after in the true Order: And thus you may proceed till you have found out the whole Writing, which by this time will be no great difficulty.

Example.

In the sixth line you have *f* once, *o* once, and *r* twice; so that probably amongst these Letters you may find the Word *for*; and upon Tryal, the Supposition is proved by the other lines, *e.g. Line* 6. *by lines* 1,2,3,4,5,7,8,9.

Rows	5 7 9
6.	*f o r.*
1.	b i g.
2.	i o n.
3.	c e s
4.	h e t
5.	u. h a
7.	p o n.
8.	o u r.
9.	t h e.

Here in the fifth line, you find *u* a terminating Letter, which must then have before it the Vowel *o*, as in *you*, or *e*, as in *Lieu*: And in this line you have *o*, once, and *e*, twice; so that

that in three Suppoſitions at moſt, you ſhall have the preceeding Row in its natural order, thus ſuppoſing it, *o*, in the fourth Row that joyns the Vowel *u*, the Writing will ſtand thus;

	4.	5.	7.	9.
1	e.	b	i	g.
2	t	i	o	n.
3	c	c	e	s
4	w	h	e	t
5	o	u.	h	a
6	n.	f	o	r
7	u	p	o	n.
8	y	o	u	r.
9	y	t	h	e.

Now having *ou*, it is moſt probable that *y* is wanting to joyn with it; which ſtanding in the ſixth Row of the Line, write down that Row in order thus;

	6.	4.	5.	7.	9.
1	r	e.	b	i	g
2	a	t	i	o	n.
3	u	c	c	e	s
4	d.	w	h	e	t
5	y	o	u.	h	a
6	e	n.	f	o	r
7	y.	u	p	o	n
8	t.	y	o	u	r
9	b	y.	t	h	e.

And

And ſo you may go on until you get through the whole Writing; which will in end ſtand thus;

W e. a r e. b i g. w i t h. e x p
e c t a t i o n. t o k n o w. t
h e. ſ u c c e ſ s. y o u. h a v
e. h a d. W h e t h e r. t h e. A
r m s. y o u. h a v e. u n d e r
t a k e n. f o r. w i l l. b e. r
e a d y. u p o n. o c c a ſ i o
n. L e t. y o u r. n e x t. b e. W
r i t. b y. t h e. s q u a r e. K
e y.

There are ſometimes other helps obvious to diſcover the ſence of an Epiſtle obſcured by this Invention, *e : g :* you ſee only two Letters falling in the laſt Line of the Example, whereby I not only conclude that the Epiſtle ends with them, but may alſo infer from the Suppoſition of a Regular procedure in Writing it, that the Letter began at ſome of the ſeeming Words, that compoſed thoſe two Rows, *viz. Ecebmaaliy*, or *webertenre :* The reaſon is evident, &c.

This Method of Secret writing is at firſt ſight diſtinguiſhable from any other, only by obſerving the equality in the Diviſion of its Letters. Note.

There are great variety of Inventions of this kind more eaſie to the confederates. Whereby they only write their ſecret intentions in a Paral-

rallelogram or other Mathematical figure, and confound the sense, by the Method of extracting it, I shall inquire into a few.

¶ 3. *Of Secret writing by help of a Parallelogram, where the Letters are extracted out of that figure Diagonally.*

To perform this a Man needs only form a Parallelogram or Table, and without any Combination or other obscurity in the writing, insert his secret intentions therein; *e*:*g*: let the sense of the Epistle be,

I suppose that things are so forward by your diligence that we may adventure at all, once next week. Meet me towards ten to morrow's night at the old place.

It is first insert in the Table thus.

I.	s	u	p	p	o	s	e.	t	h	a	t.	t	h	i	n
g	s.	a	r	e.	s	o.	f	o	r	w	a	r	d.	b	y.
y	o	u	r.	d	i	l	i	g	e	n	c	e.	t	h	a
t.	w	e.	m	a	y.	a	d	v	e	n	t	u	r	e.	a
t.	a	l	l.	o	n	c	e.	n	e	x	t.	w	e	e	k.
m	e	e	t.	m	e.	t	o	w	a	r	d	s.	t	e	n.
t	o.	m	o	r	r	o	w	s.	n	i	g	h	t.	a	t.
t	h	e.	o	l	d.	p	l	a	c	e.	*b*	*x*	*y*	*f*	*q*.

Here the last five Letters *b*, *x*, *y*, *f*, *q*, are of no use but to fill up the voyd Places in the Table.

The

The firſt Method I have obſerved in practice, of obſcuring the meaning of ſuch an Epiſtle, is by Copying it out of the Table Diagonally, upon a Paper apart (*i. e.*) by ſuppoſed Lines extending from the ſecond Letter in the firſt Row towards the left Hand, to the ſecond of thoſe in the uppermoſt Line, and from the third Letter in that Row to the third in the upper Line; next from the Letters of the laſt Line, to thoſe in the upper Line that remain, and then to the laſt Row towards the right Hand, *&c. Diagonal* is a Mathematical term, from *διὰ*, and *γωνία* an *Angle* or *Corner*.

Example.

They firſt write down *I.* beginning at the upper Corner of the Parallelogram, next they take the other two Letters that are next in order to it, *viz. g s*, then they extract the next three in order, *viz. y s u.* And ſo they go on untill they come to the laſt Corner, *viz. q.* The whole Writing being extracted in this manner, will ſtand thus.

I. gsys. ut. oapt. wurpmae. r. e. o
telmdfst o. el. aio. e. hmt. oy. lfte.
omnaiohore. cdgralrte. vewt. d.
oonenatpwwencrhls. axte. d. ian
rt. utbncidwrhy. e. gs. ee. *ab* htea
xt. ek. *y* an*f* t. *q*.

Reſolu-

Resolution.

For Resolution of this and the like manner of Secret Writing, the only difficulty is, to find out the number of the Lines and the number of Rows. And here you may observe that the number of Letters in the Epistle is equal to the Rectangle made of the Number of Lines and Rows, so that if you take the Divisors or Aliquot parts of the number of Letters, you may find out the number of Lines and Rows by a few suppositions and consequently the involved meaning.

Nay you may soon discover any Writing of this Nature, by reducing the Letters of the Epistle into Diagonal Lines, as if you had found out its true Figure. *e : g.*

I.
I. s
t
I. s u
t s.
y
I. s u p
t s. a
y o
t.

First you may mark down *I.* the first Letter in the Writing by it self, as in the Margine. Next write the two following Letters, *t s* by it thus, then to these joyn the three following Letters *y s. u* thus, afterwards the following four Letters *t o a p* thus, and so of the following five *Letters*, *&c.* You will perceive when Words or Syllables appear, and withall if you observe the Cohæsion of Words or *Letters*, between the end of the first *Line*, and the beginning of the second, you will find out where these two *Lines* joyn in the sense, and consequently where the first line ends, thus you shall have the number of Rows, by which if you divide the whole *Letters*, the Quotient gives you the number of *Lines*, *&c.*

This

This way of Decyphering may ſeem to be deluded two ways.

1. By beginning (when they Copy the Epiſtle out of the Table) at ſome of the other Angles.

2. By inſerting Nulls before the Epiſtle.

As to the firſt, if they begin at the lower Angle towards the left Hand, the Words will diſcover themſelves as before. Only the order of the Lines will be reverſed in the Operation, *viz.* The firſt Line, laſt in the true order, *&c.* 2. If they begin at the upper Angle of the Parallelogram towards the right Hand, the Lines will be in their true order, but the Writing muſt be read backwards. 3. If at the lower Angle towards the right Hand, the order of Lines will be revers'd and the Writing muſt alſo be read backwards. This holds by the ordinary Operation, but you may frame your Figure for Diſcovery, according to theſe three Suppoſitions, *viz.* Beginning it at any Corner, *&c.* Yet I judge the ordinary Operation will give the ſpeedieſt Reſolution.

Note, That by the laſt Suppoſition, *viz. By beginning at the lower Corner towards the right Hand.* You are not to expect Words or Syllables in the beginning of the firſt Line, by your Operation, being it is laſt in the true order, and Mutes, perhaps, may be inſert to fill up the void places in the Figure, ſo that you may obſerve the other Lines.

As to the ſecond by inſerting Nulls before the Epiſtle, they may in proceſs of time be diſcovered thus;

When upon Tryal, you find the Writing in the Epiſtle will make nothing of ſenſe, lay aſide the firſt Letter, and make a new Suppoſition with thoſe remaining, if nothing yet appear, lay aſide two Letters and proceed as before, then leave out three, four, *&c.* until you perceive Words, *&c.* But to leave this.

¶ 4. *Of* Argile's *Method for confounding the ſenſe of an Epiſtle by altering the places of the Words.*

As by changing the places of Letters, ſo by altering the Natural Order of the Words, the ſence of an Epiſtle may be obſcured. Yet ſince both are Decypherable by the very ſame Rules, we ſhall not make any deſtinction; but take either as they come to Hand. And therefore have I ſubjoyned this Method of the late *Earl* of *Argile*'s to the preceeding Paragraph, which is in effect but a new alteration in Copying out the Writing from the Table, in which it was at firſt contrived. Perhaps he had in his Eye, that way of Writing we have obſerved before, to proceed from the top to the bottom, and then upwards again, *&c.* Wherein the Rows are inſtead of Lines, and ſaid to be uſual in *China*, *Taprobane* and *Japan*.

P. 18. Of this recent inſtance we have the following account in the *Diſcoveries made in* Scotland. *The words in the long Letter were ſo Ordered that 254 words in courſe were interpoſed betwixt the firſt and ſecond word in ſenſe, and as many between*

tween the third and fourth, and ſo forth to the laſt word of the Letter. Then beginning with the ſecond word, there were 252 words between that and the next in ſenſe, and ſo forth till they came to the penult word; Again beginning with the third word of the Letter, betwixt which and the next in ſenſe intervened only 250 words, and ſo forward to the end. In the ſhort Letter 62 words were interpoſed betwixt the firſt and ſecond, and ſo to proceed as in the other, &c. The reaſon of this inequality was his manner of tranſcribing his Miſſives, from that Parallelogram, he contrived them in at firſt; for having diſtributed them into a certain number of Columns and Lines (which numbers were ſubjoyned to the end of the writing for a Key: E: g: *there reſt juſt* 32 l. 8 s. *(i. e.)* 32 Lines 8 Columns, *The Total ſum is* 128 Gild. 8 ſt. *&c.* A piece of Policy taught by *Schottus* in his *Schola Steganographica.*) *He begins at the Head of the firſt Column, and proceeds to the Foot of it, then beginning at the bottom of the* 2d *Column he riſes to the Head thereof, thereafter begins at the top of the third Column,* &c.

Steganog. P. 100.

Account of Diſcoveries in *Scot. ibid.*

We need not go far for an Example.

I	*know*	*not*	*the*	*grounds*	*our*	*Friends*	*have*
gone	*upon*	*which*	*hath*	*occaſioned*	*them*	*to*	*offer*
ſo	*little*	*Money*	*as*	*I*	*hear*	*neither*	*know*
I	*what*	*aſſiſtance*	*they*	*do*	*intend*	*to*	*give*
and	*till*	*I*	*know*	*both*	*I*	*will*	*neither*
refuſe	*my*	*Service*	*nor*	*do*	*ſo*	*much*	*as*
object	*againſt*	*any*	*thing*	*is*	*reſolved*	*till*	*I*
firſt	*hear*	*what*	*Mr*	*Red*	*or*	*any*	*other*
you	*ſend*	*ſhall*	*ſay*	*only*	*in*	*the*	*mean*
time	*I*	*reſolve*	*to*	*let*	*you*	*know*	*as*
much	*of*	*the*	*grounds*	*I*	*go*	*on*	*as*
is	*poſſible*	*at*	*this*	*diſtance*	*and*	*in*	*this*
way	*I*	*did*	*truly*	*in*	*my*	*propoſition*	*mention*
the	*very*	*leaſt*	*ſum*	*I*	*thought*	*could*	*do*
our	*buſineſs*	*effectually*	*not*	*half*	*of*	*what*	*I*
would	*have*	*thought*	*requiſite*	*in*	*an*	*other*	*juncture, &c.*

The Words are *Argile*'s, and after his way of obſcuring them, they will ſtand thus.

I gone ſo I and refuſe object firſt you time much is way the our would have buſineſs very I poſſible of I ſend hear againſt my till what little upon know not which Money aſſiſtance I ſervice any what ſhall reſolve the at did leaſt effectually thought requiſite not ſum truly this grounds to ſay Mr thing nor know they as hath the grounds occaſioned I do both

do

do is Red only let I diſtance in I half in an of thought my and go you in or reſolved ſo I intend bear them our Friend, to neither to will much till any the know on in propoſition could what other juncture I do mention this as as mean other I as neither give know offer have.

SOLUTION.

Here the great difficulty is the ſame, as in that of the preceeding Method concerning the number of Lines and Columns, for theſe two Numbers being given, as in *Argile*'s Letters; or found out by the Rules already delivered. There remains nothing, but to reduce the writing in the Epiſtle to ſuch a form as you ſuppoſe it to have been writ in at firſt.

Now as to the Example, we ſhall grant that no intelligible Key is given; however the number of Words being 128, and ſuppoſing it to be equal to the rectangle made of the number of Lines and Columns, you may take it's ſeveral equal Diviſors or Aliquot parts, which are 2, 4, 8, 16, 32, 64, which you may ſet down reverſed one to another thus;

2	64
4	32
8	16
16	8
32	4
64	2

Some of these number is that of Lines, and the number opposite to it (being its equal Divisor, or Dividend, as it falls greater or lesser) is the number of Columns, and if you make Tryal by all, you cannot miss of your aim.

But supposing Nulls were by compact joyned in with such an Epistle. Its equal parts or Divisors are by that means altogether obscured.

To remove this difficulty, (besides what hath been said concerning the former Method) I shall further add, that you may proceed by Suppositions at random, as to the *number* of Lines or Columns beginning very low as at *two* or *three* for *Security*, or going *first* through what is *most* probable for *Expedition*. When you have the true number of Lines, if their order be perplexed (which may happen by Nulls) 'tis true the meaning will be as intricate as ever, yet if you make a different position for each supposed Line, abating always one Letter in every new Position, you shall in some of those have the sense of the Epistle unmasqued, whatever the number or places of these Mutes shall be, the Demonstration is obvious. Take this Example.

The	whole	design	is	laid
open	take	your	measures	as
the	knowledge	of	this	shall
direct	you	fare	you	well

Suppose there were Nulls insert in the Table, where you see the Words marked by a different Character thus; The

The	whole	*you*	design is		laid
open	take	*his*	your	measures as	
the	knowledge	*kindred*	of	this	shall
direct	you	*my*	fare	you	well

Nay to render the Writing more intricate after it is extracted, let new Mutes be added. *e. g. Affection Love Passion Mystical Honor* the open the direct you knowledge take whole *you his kindred my* fare of your design is measures this you well shall as layd *Father Sister Pounds* &c.

Now this Epistle once supposed to consist of 4 Lines the first Position, with all the Words will be false. *e. g.*

Affection	the	direct	*kindred*	*my*	this	as	layd
Love	open	you	*his*	fare	measures	shall	*Father*
Passion	the	knowledge	*you*	of	is	well	*Sister*
Mystical	*Honor*	take	whole	your	design	you	*Pounds*

But at the second Position abating one word you shall have those added Nulls all by themselves in this order, *viz.*

Love	direct	you	*my*	fare	you	well	
Passion	the	knowledge	*kindred*	of	this	shall	*Pounds*
Mystical	open	take	*his*	your	measures	as	*Sister*
Honor	the	whole	*you*	design	is	layd	*Father*

Here the order of the Lines is inverted, which is occasioned because the Nulls or non-

ſignificant Words in the beginning make an odd Row, ſo that the ſecond Row being firſt in ſenſe, you proceed from the bottom upwards, whereas had it likeways been firſt in the Writing you ſhould have begun at the top, *&c.*

¶ 4. *The former Method of Secret Writing rendered more intricate.*

This way of Secret Information may be yet further obſcured by confounding the order of Columns according to compact, when they extract the writing out of the Table.

Example in Letters.

The Example in ¶ 3. is ſufficient to illuſtrate any new difficulty ariſing from this.

	5	11	3	16	1	8	6	12	2	13	4	15	7	10	14	9
1	l.	ſ	u	p	p	o	ſ	e.	t	h	a	t.	t	h	i	n
2	g	s.	a	r	e.	ſ	o.	f	o	r	w	a	r	d.	b	y.
3	y	o	u	r.	d	i	l	i	g	e	n	c	e.	t	h	a
4	t.	w	e.	m	a	y.	a	d	v	e	n	t	u	r	e.	a
5	t.	a	l	l.	o	n	c	e.	n	e	x	t.	w	e	e	k.
6	m	e	e	t.	m	e.	t	o	w	a	r	d	s.	t	e	n.
7	t	o.	m	o	r	r	o	w	s.	n	i	g	h	t.	a	t.
8	t	h	e.	o	l	d.	p	l	a	c	e.	*b*	*x*	*y*	*f*	*q.*

You ſee the order is this, 5, 11, 3, 16, 1, 8, 6, 12, 2, 13, 4, 15, 7, 10, 14, 9. When they Copy it out of the Table, they begin at the top of the Row at number 1, and ſo proceed ſuc-

ſucceſſively to Numbers, 2, 3, 4, 5, &c. The Row of Letters, which is firſt in order, is 5th by compact, thoſe that ſtand in the ſecond Row, are 11th in the Order of extracting the Writing, &c. thus; p e. d a o m r l t o g v n w s. a u a ü e. l e m e. a w n n x r i e. l. g y t. t. m t t f o. l a c t o p t r e. u w s. h x o f i y. n e. r d. n y. a a k. n. t. q h d. t r e t t. y ſ s. o w a e o. h e. f i d e. o w l h r e c e a n c i b h e. e e a f t. a c t t. d g b p r r. m l. t. o o.

SOLUTION.

What is already propoſed for finding out the *number* of *Lines* and *Rows*, and for *Separating* the *Mutes* from *ſignificant* Letters, will reach this Method; & what is ſaid in the Solution of ¶ 2. for reducing the Rows into their *Natural Order*, will hold good here likewiſe. *e. g.*

When after (perhaps) ſeveral falſe Suppoſitions as to the *number of Lines*, you have at laſt ſuppoſed the *Table* of the Epiſtle to conſiſt of 8 Lines, tho there were 100 Nulls in the Writing, in one of eight Poſitions you ſhall have them a part, as in the former inſtance and the Writing in the following order.

ptu al.

p	t	u	a	I.	s	t	o	n	h	s	e.	h	i	t.	p
e.	o	a	w	g	o.	r	s	y.	d.	s.	f	r	b	a	r
d	g	u	n	y	l	e.	i.	a	t	o	i	e	h	c	r.
a	v	e.	n	t.	a	u	y.	a	r	w	d	e	e.	t	m.
o	n	l	x	t.	c	w	n	k.	e	a	e.	e	e	t.	l.
m	w	e	r	m	t	s.	e.	n.	t	e	o	a	e	d	t.
r	s.	m	i	t	o	h	r	t.	t.	o.	w	n	a	g	o
l	a	e.	e.	t	p	x	d.	q	y	h	l	c	f	b	a.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Now in the firſt Line you find *t* thrice, *b* twice, *a* once, and *e* once, and probably amongſt theſe Letters you may have the Word *the* or *that*, upon Tryal you will find *t* in the ſecond Row, *b* in the 13th, *a* in the 4th, and *t* in the 15th Row to favour your Suppoſition, by the agreement of the other Lines.

And having come this length you may proceed backwards or forwards, as the imperfect words ſhall beſt direct you. *e.g.*

2.	13.	4.	15.
t	h	a	t.
o	r	w	a
g	e	n	c
v	e	n	t
n	e	x	t.
w	a	r	d
s.	n	i	g
a	c	e.	*b*

Note. In this Method if you have once the true

true *number* of *Lines*, notwithſtanding nonſignificants be added you will in the Operation perceive Words and Syllables appear in one half of the Lines at leaſt, even though their *order* be perplext.

There are other Obſervations, which for brevity I leave to the Ingenious Readers peruſal of the Example given in its ſeveral poſitions.

Upon the whole 'tis obſervable. 1. That this kind of Cryptography by *changing the places of the Letters or Words* (however contrived) will ſtill be *lyable to ſuſpicion.*

2. You may certainly diſtinguiſh it from any other kind of Secret Writing, by the *frequency* of the Letters. *e. g.* If the Vowels be often uſed, *&c.* Or in ſhort, if the Letters have their *uſual frequency* as in plain Writing.

3. You may probably judge of the Language it is writ in, either from the *frequency* of the Letters, or by ſome of the Letters themſelves: *e. g. w* is only uſed in *Engliſh, Dutch*, or ſome branch of the Teutonick, *k* is never uſed in Latin, *&c.* nor *q* frequently in *Engliſh*: And if the Terminal Letters be given, you may with much certainty find out the Language.

In theſe laſt remarks there muſt be an exception for proper Names, and I hope 'tis enough to have mentioned it. My method leads me next to treat

SECT.

SECT. 3.

Of ſecret Writing, by uſing more Letters or Characters than are requiſite to frame Words.

HAving gone through the moſt material kinds of *Secret Writing*, by *Equal* Letters or Characters in the two preceeding Sections, I come now to enquire into that ariſing from *More* Letters than are required to make up Words: And here I ſhall paſs by what may not be worth the Enquiry, ſuch as that common Diſtich.

Mitto tibi caput Veneris, *ventremque* DiAnæ,
*Latroniſque caput, poſteriora Can*E.
(i. e.) VALE.

And that wherein the firſt, middle, and laſt Letters or Syllables are only ſignificant: *e. g. Fildy Fagodur wirdeeld arare diſcoverantibrand*, which is put to expreſs theſe words,

Fly, for we are diſcovered.

This is from the *Secret and ſwift Meſſenger*; but every Body may ſee it Nonſence and unpracticable; and ſure it is enough in all Conſcience to have mentioned it.

Secr. and ſwift Meſ. p. 77. out of *Bed. l. de Sybil.*

A Writing may be ſo contrived, as that one letter in a line ſhall only be ſignificant, as in that remarkable *Acroſtick* made by one of the Sybils, where the firſt letters of each Verſe being

ing put together made up these words, Ἰησοῦς Χριστὸς Θεοῦ Υἱὸς Σωτὴρ. *Plautus* contriv'd the names of his Comedies in the first Letters of their Arguments. *Schottus* relates a way of Secret Writing out of *Tritbemius*, whereby the first, second, third or last letters of the words may serve to express the secret Intentions; but I leave these, and many more to this purpose under a general *Cæveat*.

Schola Steganog. class. 7. Erot. 5.

¶ 1. *Of secret Writing by Dots*, &c. *in an ordinary Epistle.*

The first remarkable, and a very ordinary Contrivance in *Secret Writing*, by more letters than usually go to the framing of words, is that insisted on by *Schottus*, *viz.*

Sc. Steg. Class. 5. c. 1, 2, 3. &c.

1. The Confidents at parting frame an Alphabet of Figures to write by, *v. g.*

A	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t
4	22	10	9	1	11	13	18	3	19	12	8	20	2	21	23	7	6	5

v	w	x	y	z.
15	14	16	17	24.

2. Having writ down their secret Intentions on a Paper apart, they contrive an Epistle of some ordinary Business in any Language.

3. They search for the Numbers of the Alphabet that express the letters of the *secret Writing*; and counting the letters in the common Missive from the Beginning, they subjoyn some

ſome private Mark under every Character where the reſpective Numbers end.

E. g. Let the ſecret Intimation be this;

3 6 18 4 12 12 6 11 16 21 5 5 18 3 6 20 3
I s h a l l ſ ee y o u t h i s n i
13 18 5 45 16 21 5 7 12 2 9 13 3 20 13 6
g h t at y o u r L o d g i n g s

And the Epiſtle to run thus:

Having underſtood that I could not be ſafe any longer where you are, I have choſen rather a voluntary Baniſhment to wander with my Liberty abroad, than to lie under the daily Hazard of loſing it at home: 'Tis in my opinion the leaſt of the two Evils. 'Tis true, I am innocent; but Innocence is not always a Buckler; ſo that I hope you will not condemn, even tho' you cannot approve my choice, at leaſt, till you have the particulars of my Caſe; which expect per *next.*

You ſee the Figure for the firſt letter, to be put in Cypher, is 3; therefore a ſecret Mark or Point muſt be placed directly under (or above) the third letter of the Epiſtle, *viz. v.* and number 6, expreſſing the ſecond letter in ſecret Writing, a Dot muſt ſtand under the *6th.* letter from *v*, *viz.* under *n*, and 18 letters from *n*, will ſtand another Dot, *&c.*

Example.

Example.

Having underſtood that I could not be ſafe any longer where you are, I have choſen rather a voluntary Baniſhment, to wander with my Liberty abroad, than to lie under the daily Hazard of loſing it at home: 'Tis in my Opinion the leaſt of the two Evils. 'Tis true I am innocent; But Innocence is not always a Buckler; ſo that I hope you will not condemn, even tho you cannot approve my Choice, at leaſt, till you have the particulars of my Caſe; which expect *per* next.

The Points may be ſo ordered, as that they ſhall not be viſible, till held by the Fire, or dipt in Water, *&c.* See the laſt Section of this Chapter.

SOLUTION.

For Decypher ing this you have no more a-do, but to take the number of Letters, from the

the beginning of the Epiſtle to the firſt point from that to the ſecond, and ſo from point to point until you come to the laſt; Writing down the ſeveral Numbers, diſtinctly one after another, and then you have it in a plain Cypher reſolvable by the former Rules.

7 Book of the Art of War.

Nich. Machiavel tells us, that in his own time a certain Perſon deſigning to ſignify ſome Secret intention to his Friends, interlined private marks in Letters of Excommunication that were to be Publickly affixt, by which the Secret was afterwards communicate to the Confederates, and this has in all probability been performed by the former or the like Method of Secret Information.

¶ 2. *Contains ſeveral ways of Inſerting Nulls to* Prevent *or* Divert *Suſpicion.*

I have already conſidered the obſcurity ariſing from the Inſertion of *Nulls* at random, as to ſeveral of the ways of Secret Writing mentioned: But here I ſhall enquire into them, as inſert by compact to *prevent* or *divert* ſuſpicion, and indeed their great deſign, who uſe them in the following methods, is generally one of the two.

When they would quite *Remove* ſuſpicion the Epiſtle is ſo contrived, as that to outward appearance, it may appear to have nothing in it but ſome Trivial Buſineſs, as news, *&c.* or a Private Concern, as borrowing of Money, paying of Bills, *&c.*

But

But if the Perſon will render the Paper ſuſpected, they may endeavour to divert that ſuſpicion, by Inſerting a falſe deſign to cloak a true one.

The nature of this Secrecy will more fully appear in the following Examples.

Example 1.

Suppoſe two or more Confederates had agreed to confine their Secret Intentions to one ſide of the Paper in the Writing, according to ſome Private Compact. Thus if upon diſcovery of a Plot a ſpeedy flight were deſigned, and to be communicated by this contrivance, it might be writ at firſt in manner following.

The design is not Secret there is now no safety but by flight do not fail to meet me half an hour hence let the next meeting be just without the Gate if my Senses are sound we may conclude to have infallible Evidence the snare is prepared effectually to entrap you and

Your, &c.

POST-SCRIPT.

Pretbee expose not thy self to imminent danger.

Now to obscure the sense and prevent suspicion the void parts of the Lines may be supplyed with something foreign to the design; and afterwards the Epistle pointed according to the seeming sense. *v.g.*

The design is not in danger, to all it is as yet Secret; There is now nothing in view to threaten our safety, but by flight we should ruin all our designs. Do not fail to meet me by six in the old manner in half an hour hence, I intend to be at the Consult, let the next meeting be where they will, I'll have notice just without the Gate, was the Governour this Morning (if my Senses are sound) secure as we could wish him, we may conclude to have hit right on the means, and more infallible Evidence is not on this side Conjuration, the Snare is prepared they are visted, and see not that 'tis effectually to entrap them and on their Ruine to raise you and

Your, &c.

POST-SCRIPT.

Prethee throw off those vain fears, expose not thy self to scorn, when there's not any imminent danger.

Here to divert the suspicion what is designed for the Confederates particular knowledge is divided from the rest of the Epistle, by a supposed perpendicular Line, but however it be divided, the sense cannot well escape a discerning Eye; and to propose a SOLUTION would be superfluous.

Example 2.

The former Method for Secret Correſpondence may be further obſcured, by cutting out equal Holes in two or more Sheets or half Sheets of Paper, and each of the Confederates at parting keep one, when there is any Secret concern in agitation, they lay the cut Paper over that they are to write upon, and expreſs their mind through the Holes, which done, the void places are filled up (as before) with any thing to *prevent* or *divert* ſuſpicion; and when it comes to the Confederates Hands. He becomes acquainted with the hidden meaning by applying the cut Paper he kept, to the Writing in the Epiſtle.

SOLUTION.

This method can hardly have any *poſitive* Rules for *Decypbering*, nor will the Judicious World need any, were not ſuch ways of Secret Writing fair to paſs unſuſpected, I am confident they ſhould be abandoned as uſeleſs.

Firſt, to ſolve this new Difficulty lay aſide the ſeeming ſenſe of the Epiſtle, and afterwards a Man's Reaſon will furniſh him with more light into the Buſineſs than a whole Volumn of Inſtructions. The project is fairly laid down, and 'tis but going through the whole Epiſtle to find it out, nay you will find many occurring circumſtances to help you in the ſearch *e. g.*

ſuſpi-

ſuſpicious words, which may be firſt extracted, and afterwards you may make Tryal what will beſt join with them. At worſt you may begin with the firſt two, three, or more words in the Epiſtle, and peruſing the whole add what will make up ſenſe, from thence to the next words and combine as before, *&c.*

'Tis true this way of *Reſolving* is not ſo infallible as others, becauſe you may find *ſenſe* and perhaps a *deſign* contrary to the *true* intent of the Epiſtle, yet for ſecurity you may extract all out of it that will ſtick together, and and thus ſuppoſe you could not certainly know which of them may be the real meaning, yet all may be ſecured againſt, and tho ſuch a diſcovery could not in *Law* amount to a proof againſt the Criminal. It may however ſerve to provide againſt the attempt.

'Tis obſerveable that this Method of Crytography may occaſion a miſtake amongſt the Confederates themſelves, without a great exactneſs in Acting their ſeveral parts in Writing and Reading, eſpecially if the Holes be ſo contrived as that they can only contain Words, Syllables or ſo, for we muſt ſuppoſe the Receiver of the Epiſtle to give an implicite Faith to what is delivered him in this manner, and one falſe ſtep on either ſide, may give S T A Y inſtead of R U N, *&c.* quite confounding the meaſures laid down. And if the Holes be large enough to contain Sentences it facilitates the Diſcoverer's work.

Example 3.

To *prevent* but especially to *Divert Suspicion* (by Non-significants) there is an improvement of the last Methods of Secret Writing too *Publick*, tho not by way of the *Press* (for any thing I know) *viz.* By contriving a Writing according to any of the last Examples, in Secret Characters, containing a Plot, or perhaps some little Sham, a Love Entrigue, or an *Ingenious* Cloak of no *Ingenuous* dealing, as a pretence of broken credit amongst Merchants, and the like, and lockt up by Cypher and a Seal: This Epistle when Decyphered, (which is no more than perhaps the Confederates had agreed on) would give great probability that you had seen clearly into the Mystery, (finding a Plot or other tender concern put in Cypher,) when in truth, you have made no further Progress than they designed for you (in case of surprize) and as to any real intention you are still in the dark.

This Obscurity when it is once suspected falls under the Observations upon the last two Examples.

Example 4.

Advanc. of Learn. p. 265.

From the Lord *Verulam* we have one Secret way of Converse to *Divert suspicion* by *inserting of Nulls*, in these Words. *As for the shifting off*

off Examination, there is ready prepared a new and profitable Invention to this purpose; which, seeing it is easily procured, to what end should we report it as Deficient? The Invention is this: That you have two sorts of Alphabets, one of True Letters, the other of Non-significants; and that you likewise fold up two Letters; one, which may carry the Secret; another, such as is probable the Writer might send, yet without Peril. Now, if the Messenger be strictly examined concerning the Cypher, let him present the Alphabet of Non-significants for true Letters; but the Alphabet of true Letters for Non-significants: By this Art the Examiner falling upon the Exterior Letter, and finding it probable, shall suspect nothing of the Interior Letters.

SOLUTION.

The Difficulties here are not very great: 'Tis true, if this Contrivance had never been publish'd, it might have had the desired Effect; I mean, to *divert Suspicion*: But being made publick by an Author, so universally received, I cannot see, but that the Examiner (even finding the *exterior* Letter *probable*) should take a View likewise of the *interior*, tho its Alphabet might be delivered him for *Non significants*.

But supposing no Alphabet in the Case, the Writing is decypherable without it. *v. g.*

1. You may discover from the number of Characters in the Writing, whether two Alphabets be used.

2. After you have found out, that two Alphabets or more are uſed, you may from the frequency of each particular Character, &c. obſerve the differing letters that expreſs the ſame Power.

3. And having by ſeveral Operations diſtinguiſhed the Alphabets one from another, any thing of new Difficulty vaniſheth.

¶ 3. *Of expreſſing all the Letters of the Alphabet, by any two, or three, or five of them, &c.*

Examples 1. *Of five Letters reſolved into two places.*

AA, ab, ac, ad, ae, ba, bb, bc, bd, be, ca,
A, B, C, D, E, F, G, H, I, K, L,
cb, cc, cd, ce, da, db, dc, dd, de, ea, eb, ec, ed,
M, N, O, P, Q, R, S, T, V, W, X, Y, Z.

According to which,

Bd aacb abacdddbaaecad.
I am betray'd.

Example

Example 2. *Of three Letters tranſpoſed through three places.*

Aaa, aab, aac, aba, abb, abc, baa, bab, bbb,
A, B, C, D, E, F, G, H, I,
bba, bac, bca, aca, acc, acb, bbc, bcb, bcc,
K, L, M, N, O, P, Q, R, S,
cca, cab, cba, ccc, cbb, ccb.
T, V, W, X, Y, Z.

Babaaabcccaaabbaca.

Haſten.

Example 3. *Of a Bi-literary Alphabet.*

Aaaaa, aaaab, aaaba, aaabb, aabaa, aabab,
A, B, C, D, E, F,
aabba, aabbb, abaaa, abaab, ababa, ababb,
G, H, I, K, L, M,
abbaa, abbab, abbba, abbbb, baaaa, baaab,
N, O, P, Q, R, S,
baaba, baabb, babaa, babab, babba, babbb.
T, V, W, X, Y, Z.

Aababbaabbaabbaaabaa.

FUGE.

From theſe Examples you may perceive how a man may expreſs his mind (at any ſuch diſtance wherein the Eye and Ear may immediately officiate) by any thing that is capable of

of a double or triple difference: But of this in the following Chapter.

All theſe Alphabets are compoſed by an *irregular* Poſition of the Letters, which differs very much from a *regular* Combination of letters, as is obſerved: For,

1. By an *Irregular* Poſition, *all* the Letters to be uſed are not inſert in all the Places; and thus you ſee *aaa, bbb, baa, &c.* in the Alphabet of three Letters.

2. The Number of Letters, and Number of Places need not be the ſame: And thus in the firſt Example you have 5 letters reſolved into 2 places; and in the laſt Example two letters tranſpoſed through five Places, *&c.*

Note, by *Places* is underſtood the Number of Letters in the ſeveral *Ranks*, as in the Examples.

But in a *Regular* Tranſpoſition or Combination, *e contra*, All the Letters to be combined muſt be inſert in every Poſition; and conſequently the Number of letters, and Places *equal*: As you may perceive from the *Explanation of the Table of Combinations*, in the preceeding Section.

Having mentioned theſe things, I ſhall for the Satisfaction of thoſe that are curious, leave ſome Remarks, to find out how many times this *Irregular* Method varies the Poſitions of any Number of Letters in their ſeveral Places: And,

1. As to the Number of *Places* and *Letters*, take the Number of Letters given; multiply that

that Number by it ſelf, and the Square, or Product ariſing from the Multiplication, gives their Variations in two Places: *E. g.* In the firſt Example there are five Letters in two Places: Now 5 the Number of Letters, multiplied by it ſelf, gives 25, the Number of different Poſitions, 5 letters reſolved into two Places can have.

2. When the ſame Number of Letters is diſpoſed, three in a Rank, or in three Places, multiply the Square by the *Root*, or Number of Letters, and the Product will give you the different Poſitions of the letters in three Places: *E. g.* multiply 25, the laſt Product by 5 the *Root*, the *Reſult*, or *Cube*, 125 ſhows that 5 letters in three Places may be ſo many times varied in the ſeveral Poſitions.

3. If you would know how many *Irregular* Poſitions 5 letters in 4 Places can have, take the fourth *Power* from the *Root* or Number of letters, (*i. e.*) Multiply the laſt Product by the Number of letters, *v. g.* 5, and the new Product gives you the Reſolution. And thus you may proceed to 5 Places, by finding out the Fifth *Power*; and ſo go on as far as you pleaſe.

Again, if you would find out how many Poſitions two letters have in any Number of Places deſired: *Firſt.* Multiply 2 by it ſelf (as before) which ſhews, that 2 Letters in 2 Places, have 4 Poſitions. *2dly.* Multiplpy 4, the Product, by 2, the *Root*, and you have 8, the Number of Different Poſitions that 2 letters have

have in 3 Places: 2 Letters in 4 Places have 16 Irregular Positions, and in 5 Places they have 32: And so for any Number *in Infinitum.*

I need not say much for SOLVING any Difficulty in the former Examples: For this way of Secret Writing (alone) will signifie very little, unless to spend *Time* and *Paper* to the Writer: For if you put a Mark of Distinction between every *two, three,* or *five,* &c. of the Characters (as they make up a *significant Letter*) they are liable to Discovery the same way with an ordinary Cypher.

And it is easily discernable when two, three, or five Characters expres one Letter, either from the Number of Characters in a Word, or in the whole Writing.

1. From the *Number* in a Word: For when *two* Letters go to the Composition of the Alphabet, there must be *five* Places; and the Words will consist of 5, 10, 15, 20, or 25 letters, *&c.* If *three* letters in *three* Places, you will find 3, 6, 9, 15, or 18 Characters, *&c.* in each word, if *five* Letters in *two* places, the words shall have 2, 4, 6, 8, 10, or 12 Characters, *&c.* a piece.

2. From the *Number* of the letters in the *whole,* as if *two* be only used in one Rank, you shall have *five* differing Characters in the whole at least: *E.g. a, b, c, d, e.* If *three* in a Rank, then you may have 3 Characters: *e.g. a, b, c,* and if 5 in a Rank, you shall possibly have but 2 Characters in the Writing, *&c.*

There

There might be other Obſervations made, as from the number of like Characters falling together, *&c.* were it not ſuperfluous.

¶ 4. *Of Secret Writing by a Biformed Alphabet.*

This way of Secret Writing is mentioned by the Lord *Verulam*, joyntly with that in the preceeding Paragraph, only as preparatory to the Secret Contrivance immediatly following, but is inſiſted on by it ſelf in Biſhop *Wilkins* his *Secret and ſwift Meſſenger*, and therefore have I inſert it ſeperately here. For Example. Adv. of Learn. p. 267.

First Alphabet.

A a, B b, C c, D d, E e, F f, G g, H h, I i, K k, L l, M m, N n, O o, P p, Q q, R r, S s, T t, V v, W w, X x, Y y, Z z.

Second Alphabet.

A a, B b, C c, D d, E e, F f, G g, H h, I i, K k, L l, M m, N n, O o, P p, Q q, R r, S s, T t, V v, W w, X x, Y y, Z z.

In Writing by this Invention of Secrecy, the Body of the Epiſtle is to conſiſt chiefly of the ſecond Alphabet. And as Occaſion offers, the Secret intentions may be expreſt by the Letters of the firſt Alphabet; this I find illuſtrated by the following Example, *viz.* From thoſe that are beſieged.

We

We prosper still *in* our affairs and *shall without having* any further *help* endure the siege.

Here the Letters of the first Alphabet contain these words;

We perish with hunger help us.

I do not mention this for any thing of intricacy, but only for Information that such Methods may be taken.

¶ 5. *Of the Lord* Bacon's *Invention of Writing*
OMNIA PER OMNIA.

1. For performing this, they must have at Hand a Bi-literary Alphabet as in ¶ 3. And a Bi-formed Alphabet as in ¶ 4.

2. They write down their Secret Intentions or the Writing to be *infolded* on a Paper apart.

3. They make a Supposition, that all the Letters in the first Alphabet ¶ 4. do express *A*, and those in the second Alphabet *B*. And thus they may write what they please, for the Writing *infolding*, so it bear a quintuple proportion to the Writing *infolded* at least.

Or in that Learned Lord's own Words:

Adv. of Learning l. 6. c. 1.

To the interior Letter which is Bi-literate you shall fit a Bi formed Exterior Letter, which shall answer the other, Letter for Letter, and afterwards set it down. Let the exterior example be,

Manere te volo donec venero.

And the interior be,

FUGE.

Exam-

Example.

F U G E

Aabab. baabb. aabba. aabaa.

Manere te volo donec venero.

I have hereunto ſubjoyned an Example for further Illuſtration out of the *Secret and Swift Meſſenger.*

Exterior Epiſtle.

All things do happen according to our deſires the particulars you ſhall underſtand when we meet at the appointed time and place of which you muſt not fail by any means the ſucceſs of our affairs does much depend upon the meeting that we have agreed upon.

Interior Letter.

Fly for we are diſcover'd, I am forced to write this.

The

The Example illuſtrated.

Aabab, ababa, babba, aabab, abbab, baaaa,
F L Y. F O R.
babaa, aabaa, aaaaa, baaaa, aabaa, aaabb,
W E. A R E. D
abaaa, baaab, aaaba, abbab, baabb, aabaa,
I S C O V E
baaaa, aaabb, abaaa, aaaaa, ababb, aabab,
R ' D. I. A M. F
abbab, baaaa, aaaba, aabaa, aaabb, baaba,
O R C E D. T
abbab, babaa, baaaa, abaaa, baaba, aabaa,
O. W R I T E.
baaba, aabbb, abaaa, baaab.
T H I S.

This Method wants nothing of Ingenuity in the Contrivance, and containeth the *Higheſt degree* of Cypher, which is to ſignify *omnia per omnia*, without any other Reſtriction, than that the *outward* Writing muſt bear a quintuple proportion to the *Inward*. Nay, there may be a Tri-formed Alphabet, contrived and Regulated by the Tri literary Alphabet in ¶ 3. Example 2. And then the Epiſtle *infolding* will bear but a triple proportion to the Writing *infolded*: Either of which ways is preferable, to that tedious way of Secret Writing *without ſuſpicion*, inſiſted on by *Trithemius*, in his firſt four Books of Polygraphy, and all the emprovements it hath met with as ſhall be made manifeſt.

Note,

Note, that by the invention of Secret Writing with Dots mentioned ¶ 1. a Man may write *omnia per omnia*, or expreſs any intention by any Writing; but the proportion, between the Exterior and Interior Letter will be much greater than in this Noble Lord's contrivance. But to leave this Competition, I proceed.

SOLUTION.

We ſhall not need to enlarge much upon the Reſolution of this kind of Secret Writing, for if you once find out whether two or three Alphabets be uſed, (and the different kinds of Letters in the Epiſtle will inform you of that,) you may ſuppoſe one Alphabet *A*, a ſecond to ſtand for *B*, and if there be a third, let it be ſuppoſed *C*. Afterwards extract the Writing out of the Epiſtle, as if theſe Letters *A*, *B*, or *C*, were only inſert, and then it falls under the former conſiderations.

It is nothing to the purpoſe, whether your Suppoſition and the Writers be the ſame, or not; for if you ſuppoſe always *A* for his *B*, the Operation will be alike eaſy.

And here I ſhall leave this kind of *Cryptography* by *more Letters*, &c.

SECT. 4.

Of Secret Writing, by fewer Letters than are uſual in the framing of Words.

THe Art of *Abbreviations* in Writing, is mentioned by *Trithemius* and moſt Authors who have treated of *Cryptography*, but purſued by very few or none.

There hath been great variety of theſe Contractions invented, and their firſt, and, for any thing I hear, their conſtant uſe amongſt the Romans was for Expedition, ſuch as *A* the mark of *Abſolution*, * *C* of *Condemnation*, ἀπὸ τῦ καταδικάζειν,* *N. L. Non Liquet*, and *N. D. Neci Datum*. And thus did the *Judges* write their ſeveral opinions upon a little Stone or *Teſſera*, in Caſes Capital. Hence it is that A was called *Salutis Litera*, and C *Litera Triſtis*. But there were other *Abbreviations* amongſt the *Notaries*, which more properly may be ſaid to have been uſed for *Expedition*, *v.g.* A. T. M. D. O. *Aio te mihi dare oportere*, B. A. *bona actio*, B. E. *bonorum emptor*, B. F. *bona fides*. B. J. *bonum judicium*. Ca. M. V. *cauſa memorati viri*. C. C. *cauſa cognita*, &c. This way of Writing was retained in the *Civil Law*, until the number of Abbreviations was augmented to a Confuſion, and * *Juſtinian* diſcharged the uſe of them in *Statutes*, &c.

Pier. Hier. lib. 17. c. 23.
* *Pier.* ibid.
* *Pier.* Hierogl. ibid. & lib. 42. c. 53. Vid. *Schot.* Techn. Cur. lib. 7. c. 3.
L. I. Cod. Tit. 17. leg. 12.

To

To this we may ſubjoin thoſe later inventions, for *Expedition* by *Tachygraphy* or *Short-Hand-Writing.*

In the *firſt*, certain Characters expreſt whole Words; and to reduce this to a ready practice for Secret Information, the Confederates muſt allow a great deal of Time and Pains, for *Contriving* it, and *Inſtructing* their Confidents in it. *Trithemius*, ſpeaking of *Cicero*'s notes, gives his Judgment of the invention (after he had propoſed it as a *mean* for Secret Converſe) in theſe words—*Horum Rex tutiſſimè uti ſemper poteſt Obſequio, quamvis non ſine magno labore, manifeſtaque Bacuceorum ſuſpicione.*

And the *ſecond* is in effect but an improvement of the *firſt*, rendering it a little more practicable; for in *Tachygraphy* Notes are uſed to expreſs Syllables, and ſometimes Words. And herein if you underſtand but one kind of Short-Hand-Writing, you may Decypher any; for you may judge of *Syllables*, when expreſt by ſingle Characters, by their frequency, *&c.* as of *Letters.* But, beſides, you have the advantage of diſtinguiſhing the Vowels, which are not expreſt, but underſtood by the Places of the Notes, that (together with their own proper *powers*) expreſs thoſe of the ſeveral Vowels. *See Manſons or any other upon Short-Hand.*

It is Obſervable that this kind of *Writing* has not ſo much as the name of *Secret*, for it is termed, *Tachygraphy*, or *Brachygraphy*, not *Cryptography*, &c. agreeable (as is already Obſerved) to the deſign of its Invention.

I know it is very Ordinary in Secret Writing, to have an Alphabet of Words signified by ſingle Notes; and in the Lady *Argile*'s Letter, Decyphered by Mr. *Gray*, 43 or *D* expreſt the Relatives *He*, *His*, *Their*, *Him* &c. But the meaning of a few ſuch Characters may be reſolved by the ſenſe of the reſt of the Epiſtle.

Diſcov. in *Scotl.* p. 11, 12, *&c.*

And now having taken a *few* Obſervations here of the Method of Writing *by* fewer *Letters than cuſtom requires for framing Words*, as it may reſpect *Secret Information*, I leave it to be improved by others to more regular Intents; and certainly the knowledge of Ancient Abbreviations alone, wants not its advantages for underſtanding the *Religious* worſhip, as well as *Civil* Laws, of the Ancient *Romans*, for generally their *Conſecration* of Places or Things was expreſt by the firſt Letters of the Words underſtood; ſuch as Mer. S. *Mercurio Sacrum*, M. J. *Maximo Jovi*. D. Im. S. *Diis Immortalibus Sacrum*, D. O. *Diis Omnibus*, D. P. *Diis Penatibus*, J. O. M. D. *Jovi Optimo Maximo Dedicatum*, &c.

SECT.

SECT. 5.

Of Secret Writing, by a Deceit in the Paper, or ſome Material uſed inſtead of it.

¶ 1. *Of the* Lacedæmonian Scytale.

THat Secrecy ariſing from the *Paper* in a written Meſſage, moſt early, and, perhaps, moſt univerſally received, was the *Lacedæmonian Scytale*, contrived by *Archimedes*, who lived about the Year of the World 3735, we have this Relation of the Experiment from Biſhop *Wilkins*, *There were provided two round Staves of an equal Length and Size, the Magiſtrates always retaining one of them at home, and the other being carried abroad by the General, at his going forth to War: When there was any ſecret Buſineſs to be writ by it, their manner, was to wrap a narrow Thong of Parchment about one of the Staves by a Serpentine Revolution, ſo that the Edges might meet cloſe together: Upon both which Edges they inſcribed their Epiſtles; whereas the Parchment being taken off, there appeared nothing but pieces of Letters on the Sides of it, which could not be joyned together in the right Sence without the true* Scytale. Secr. and Swift Mcl. p. 38.

Vel Lacedæmoniam Scytalen imitare libelli,
Segmina Pergamei, tereti circundata ligno, *Aſin. ad Paulin.*

Perpetuo inſcribens verſu, deinde ſolutus,
Non reſpondentes ſparſo dabit ordine formas.

Reſolution.

As for this piece of ancient Ingenuity, I find it freely * confeſs'd, That a little Examination might have diſcover'd it (as ‖ *Scaliger* in a few words clearly demonſtrates:) For do but put the Edges of the Paper or Parchment (ſo writ upon) together, by a Serpentine Revolution, ſo as both pieces of the firſt divided letter may be joyned, and it gives the Compaſs of the *Scytale* to frame one by: And it were no great Task to frame Staves of all Sizes, and have them in readineſs: Nay, ſuch a Staff may be augmented in Bulk by Wax-Paper, *&c.* As it may be diminiſhed by taking theſe off again: But indeed you may find out the Sence without any ſuch Trouble: For after the firſt letter is joyned, you may ſucceſſively add piece to piece in Order, as they naturally follow, even in your Hand.

* See. and Swift Meſ. ibi:.

‖ *Scalig. L. de ſubt. exerc.* 327.

And here you may obſerve, That ſo much of the Paper as gives the Meaſure of the *Scytale*, will be void of any parts of letters, becauſe it muſt go once round the Staff before the Edges can meet.

If ſuch an Epiſtle were writ in Cypher, there's no great Difficulty in joyning the Edges rightly; and if copied from them on a Paper apart, it is liable to the ordinary Rules of decyphering Characters.

¶ 2. *Im-*

¶ 2. *Improvement of the* Lacedæmonian Scytale.

This may be performed by a Thread first dipt in Alum Water, then rowl'd about a ſmall Rod or Staff, in a Serpentine Revolution, and writ upon. Bapt. Port. Mag. nat. l. de Zip. c. 5.

SOLUTION.

And the Sence may alſo be diſcovered as before: For the Diſtance between the firſt and ſecond Mark, which the Thread receives from the Ink, gives the Meaſure of the *Scytale.*

Here 'tis the ſame thing what end of the Thread you begin at: For if you begin with the laſt Letter, turn only the Rod, putting that end downwards which was uppermoſt, and you have it in Order.

¶ 3. *Of expreſſing any ſecret Intention by a String and Tablet.*

" There is a way of expreſſing any private " Imitation, by drawing a String through the " Holes of a little Tablet, or Board: Theſe " Holes muſt be of the ſame Number with " the Letters, unto which, by Compact, they " ſhould be applied: The Order of the Strings " paſſing through, may ſerve to expreſs any " Letter, &c. Sec. and ſwift Meſ. P. 44.

SOLUTION.

As for the *Resolution*, it differs nothing from that of Secret Characters; For, if from the Differences in the Order of Strings passing thro' the Holes, you copy it out in supposed Letters or Figures, on a Paper apart, you have it written in an ordinary Cypher; of which already.

¶ 4. *Of expressing any Intention by certain Knots tied upon a String.*

Secr. and Swift Mes. *ibid.*

" There is another way to this purpose " of Secret Information, by divers Knots " tied upon a Thread, according to certain " Distances, by which a man may distinctly " express any Meaning. The manner of performing it is this: Let there be a square piece " of Plate, with the 24 Letters described on " the Top of it, at equal Distances, on both " the opposite Sides; and let there be little " Teeth, on which the Thread may be fastened for its several Returns; and the Knots " to be made at the Letters; required, *&c.*

Sch. Mag. Cryptog. p. 19.

Instead of Knots, *if the Thread be first dipt in Alum water, they can make little Marks with Ink.*

SOLUTION.

To discover any meaning so involved, the Difficulty is to find out the true Breadth of the Plate, or Table: And to effect this,

Take

Take the Exact length of the Thread, which you may reduce to Inches; or, if needful, even to Degrees upon the Line of Chords.

This done, find out all its equal Divisors, or *Aliquot* parts by the Rules formerly delivered.

Now one of these Divisors gives the *breadth* of the Tablet, and which of them it is you may find out by two or three Suppositions at most.

But there may be other ways for discovering the breadth of the Plate, *viz.* Take all the several Distances between the Knots or other marks of Distinction; or between some few of them if the thread be long: Compare the Differences, and you shall soon find out the common Distance between the Letters of their Alphabet, and consequently its breadth.

You may easily perceive when your Suppositions are false, for then there will but few Knots fall in a Perpendicular Line upon the Tablet, whereas when ever you suppose true the Knots expressing the same power will be all in a direct Line, opposite to one another, and then you may Copy it out thus, Begin at the Left-hand, mark all the Letters you find in the first perpendicular Line *A*, and those in the second Line *B*, *&c.* And at worst you have it in an Ordinary Cypher.

Here you may observe that when you have the true breadth of the Tablet, it will be no Difficulty, tho there be some part of the Thread Mute, or useless in Reading, and only sent to amuse the Discoverer.

This

This may likeways be Decyphered without the breadth of the Tablet, thus:

1. Take all the ſeveral Diſtances between the Knots, and ſet down two different Characters to expreſs every Variation.

2. Copy out upon Paper the whole Thread, according to the Figures you took to expreſs it.

Example.

Suppoſe your firſt diſtance ſhould be 16 degrees, and your mark for it *a b*, the ſecond 14 deg. and your mark for it *a c*, the third diſtance 4 deg. and its mark *a d*, the fourth diſtance 16 deg. marked as before *a b*, *&c.* The Writing will ſtand thus *a b*, *a c*, *a d*, *a b*, *&c.* Again ſuppoſe the firſt two Knots to expreſs *t b*, the fourth diſtance is likeways *t b*: And wherever theſe two Letters fall together you ſhall have the ſame diſtance. And ſo from the frequency, *&c.* you may find the hidden meaning.

¶ 5. *How to write Secretly upon the Edges of a new Bound Book.*

Mag. Nat. l. de Ziph. cap. 5.

Baptiſta Porta tells us, how we may write our Secret Intentions without ſuſpicion, upon the Edges of a new Bound Book, by drawing back the Leaves, until by degrees the Edges of the Paper fall awry, then write your mind upon it, and nothing ſhall appear but ſuch ſmall blots, as are uſually thrown upon a new Book

Book for *Ornament*, or fall accidently by *mistake*, until the leaves of the Book be put in the same Figure again.

SOLUTION.

This needs no more for its discovery, but only to be *suspected*.

¶ 6. *Of Writing upon the Edges of Cards*, &c.

Baptista Porta relates, the former way of Secret Information may be performed with playing Cards, or upon cut Paper, *&c.* *Port.* ibid.

As for this way by Writing upon the Edges of Cards, *&c.* placed in an oblique; or, perhaps, a straight Figure. It appears to have something more of Intricacy in it, than that last mentioned, because the order of placing the Cards, may be confounded when employed upon a Message, for what Card shall be first, second, *&c.* is by compact agreed upon, however this can only prolong, not frustrate a discovery, for you may take any Card that comes first to Hand, and search into the rest of the Pack, *&c.* until you get another that will exactly joyn with its broken pieces of Letters, and afterwards you may with great ease find the Cards that must go before and after those that are truly coupled, and this I hope needs no further illustration. *Schot.* Steganog. Class. 12. c. 5.

SECT.

This may likeways be Decyphered without the breadth of the Tablet, thus:

1. Take all the ſeveral Diſtances between the Knots, and ſet down two different Characters to expreſs every Variation.

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Book for *Ornament*, or fall accidently by *miſtake*, until the leaves of the Book be put in the ſame Figure again.

SOLUTION.

This needs no more for its diſcovery, but only to be *ſuſpected*.

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SECT.

SECT. 6.

Of Secrecy in Writing that ariſeth from the Ink or other Liquor.

THere are likewiſe ſeveral ways of Secrecy ariſing from the *Ink*, or the Liquor uſed inſtead thereof. I ſhall only name them, ſince that carries along with it the *means* of *Diſcovery*.

Thus when I tell you from experience, or a ſecond Hand aſſurance, That if a Man write with Salt Ammoniack, diſſolved in Water, or with the juice of Limons, *&c.* The Letters will only be viſible when held by the Fire, there needs no other Rule for Diſcovery; but indeed the heat of the Fire only detects, that which in a little time had diſcloſed it ſelf, for ſuch is the nature of thoſe acid and corroding moiſtures, that they cannot be long good Secretaries.

Port. Mag. Nat. l. de Ziph. c. 2.

Port. ibid. Letters written with diſſolved Alum, *&c.* are not diſcernable until the Paper be dipt in Water.

Schot. Steg. p. 304. Letters written with Urine, Goats fat, *&c.* do not appear until duſt be ſcattered upon them. And 'tis thought that *Attalus* uſed this piece of Policy, to encourage his Soldiers, before he engaged in Battle with the *Gauls*, his Enemies, Superior in number. The Story goes thus; *Attalus* having appointed a day for Sacrifice, as he

he pull'd out the Intrails of the Beaſt, deſcribed theſe words upon them, *Regis Victoria*, which he had before writ backwards in his Hand with ſome Gummy Juice, and as the Intrails were turn'd up and down by the Prieſt to find out their ſignification, they gathered ſo much duſt that they appeared legible, which Omen ſo encouraged his Soldiers that he got the Victory indeed.

To this purpoſe likewiſe is that of *Ovid.*

Tuta quoque eſt, fallitque oculos è lacte recenti
Littera : Carbonis pollice tange, Leges.
Fallit & humiduli quæ fiet acumine Lini,
Et ferret occultas pura Tabella notas.

There is a Secret way of Writing with the Yolk of a raw Egg, diſſolved in Fountain Water. The Letters whereof being fully dry, the Confederates black the whole Paper with Ink, which being likewiſe dryed, the Ink falls from the Letters firſt deſcribed when ſcraped gently with a Knife. *Schot.* Steg. p. 303.

Schottus tells us, how we may write Secretly with two ſeveral Inks, the method is this, mix a little Common Ink with ſo much Water, that little or nothing of Blackneſs appear in it; with this write your Secret intentions upon clean Paper : When it is thoroughly dryed, write an Ordinary Epiſtle with another Ink, (made of Gun-powder, beat and mixt with Rain water) upon the very Letters you deſcribed p. 301.

ſcribed before. The laſt Ink will waſh off with a Sponge dipt in Water boyled with Galls, which will alſo blacken the firſt.

Mag. Nat. lib. de Ziph. c. 1. *Baptiſta Porta*, has another way to this purpoſe, whereby he affirms, the true Writing will not appear until wet with the juice of Unripe White Grapes.

Schot. Ste. 304. Letters that are Writ with diſſolved Tragacanth and White Lead, will not be viſible until the Writing be held between the Sun, a Star, or a Candle, *&c.* and the Eye.

Schot. Mag. Univer. part. 4. l. 1. p. 13. *Schottus* affirms, that a Writing may be ſo contrived, that the Letters ſhall not be Legible until the Paper be burnt black: And the written parts of it do ſtill remain White. Which is performed by mixing Vinegar made of Wine, and the white of an Egg, with Quickſilver or white Lead: and Writing therewith, or with Gum or any kind of Salt, *&c.* Or with ſuch Liquors, as render the Letters deſcribed incombuſtible.

There are ſome contrivances whereby the Letters appear not but in the dark, but ſuch are not yet practicable in communicating Secret deſigns, for it being a Material Flame in the *Noctiluca*, that gives light on ſuch parts of the Paper as it adheres to, in a ſhort time it conſumes it ſelf. It is only viſible in the Dark, becauſe its Light is drowned by any that's greater.

I leave this beaten Road, with a Caution, that moſt Methods in this kind of Cryptography, may be interlined with ſome Ordinary buſi-

buſineſs in an Epiſtle, or writ on the backſide, or other part of a Letter; for of themſelves they have two grand inconveniencies. 1. To be very lyable to ſuſpicion; for who can imagine that a piece of clean Paper, or where there is nothing but one blot, when intercepted ſhould have no occult meaning? And 2. They are very eaſily diſcovered when doubted.

And this is all I ſhall add, upon *Cryptographia* or the Art of *Secret Writing*.

CHAP. II.

Of Secret Information by Signs and Geſtures and its Reſolution.

TO come now to the ſecond Part of *Secret Information* mentioned, *viz.* By *Signs and Geſtures*; it is called * *Sæmæologia*, from Σῆμα a *Sign*, and Λέγω to *read* or *comprehend*. Etimology.

This way of Converſe is compleat in its kind without the *help* either of *Words* or *Letters*, as was obſerved in the preceeding Chapter; and to borrow the words of an Eminent Author. *For this is certain, whatſoever may be diſtinguiſht into differences, ſufficient for number, to expreſs the variety of notions (ſo thoſe differences be perceptible to ſenſe) may be the Convey of the Cogitations from Man to Man.* And a little after, he adds: L. *Bacon* Advanc. of Learn. p. 258.

NOTES

p. 259. NOTES *therefore of things which without the Mediation of Words* (or Letters) *ſignify* THINGS, *are of two Sorts; whereof the firſt is ſignificant* ex CONGRUO, *and the other* ad PLACITUM. And according to this *Partition* I ſhall here treat of *them.*

SECT. I.

Of Information by Signs and Geſtures Emblematical.

Geſtures and *Signs,* are ſaid to ſignify *ex Congruo,* when there is ſome natural Analogy or reſemblance between the *action expreſt* and *thing ſignified.* Of which we ſhall adduce ſome Examples.

¶ 1. *Of Tranſitory Signs of Information.*

Ibid. The Noble Author laſt mentioned ſpeaking of *ſuch Tranſitory Signs* tells us. *As for Geſtures they are, as it were, Tranſitory* Hieroglyphicks. *For as* Words *pronounced vaniſh,* Writings *remain; ſo* Hieroglyphicks *expreſt by* Geſtures *are Tranſient; but painted, permanent. As when* Periander *being conſulted with, how to preſerve a Tyranny, bid the Meſſenger ſtand ſtill, and he walking in a Garden, topt all the higheſt Flowers,* for which he cites *Herodotus.*

Sec. and Sw. Meſſ. p. 111. *Biſhop Wilkins* calls it a *Parabolical way of diſcourſing by Geſtures,* and relates a Story to the ſame purpoſe, if not the ſame. *Thraſybulus, being*

ing consulted (says he) *how to maintain a new Usurped Tyranny, brought the Messenger into the Fields, and in his sight cut of the higher Ears of Corn overtopping the rest, bidding him tell his Master what he had seen him do.*

Others will have this to have been done by *Tarquinius Superbus*, seventh and last King of the *Romans*, when consulted by his Son *Sextus*. And all do agree that the thing *signified*, was the *cutting off and keeping low of the Nobility.*

Vide inter alios Front. de Stratag. l. 1. c. 4.

¶ 2. *Of Permanent Signs such as* Hieroglyphicks, *&c.*

Hieroglyphicks, (*i. e.*) (Holy Sculptures, from Ἱερὸς *Sacred* and Γλύφω to *Carve*) are *Natural* or *Historical*. The use of them (especially of the first) was very early in the World, and they would appear to have been a *first born Writing, elder than the Elements of Letters.*

They were both significant from *Congruity*, and therefore I have mentioned them here; being in effect but a kind of *Emblems.*

Hieroglyphicks were had in great Veneration amongst the *Ægyptians*, and were Engraven upon their Pyramids and Pillars: Their way was to express any Writing by the Pictures of such Creatures or Things, as did bear in them something of Similitude to the thing signified.

Many Treatises have been writ upon this Subject, and kindly received by the Learned World, and I hope it will not be repute, as

beſide the purpoſe, that I have ſubjoyned a ſhort account of ſome that are remarkable in this ancient way of expreſſing things.

A ſmall Collection of ancient Hieroglyphicks.

The repreſentation of a LYON, (according to the differing Poſtures, as *Paſſant*, *Couchant*, &c. Or the Pictures of other Creatures placed with him) expreſt ſeverally, *Magnanimity*, *Strength*, *Puniſhment*, *Power*, *filial Obedience*, *Clemency*, *Religious fear*, &c.

Plin. lib. 8. c. 36. The *Lyon*'s Clemency is commonly noted, *Pliny* tells us, *Leoni tantum ex feris Clementia in ſupplices, proſtratis parcit.* Hence that of *Ovid.*

Corpora magnanimo ſatis eſt proſtraſſe Leoni.

When the *Lyon* is made the Hieroglyphick of fear, they preſent a *Cock* by him, whoſe crowing is ſaid to be ſo formidable, that it puts him to flight. *Plin.* ibid.

By the ſeveral Poſtures of an ELEPHANT, they uſed to expreſs a *King*, *Piety*, *Temperance*, &c. A King, becauſe he never bows the Knee, *&c.*

By the RHINOCEROS or UNICORN, a *ſevere Revenger*, *but not eaſily provoked*, &c.

By the BULL, *Continence*, *plenty*, &c.

By the HORSE, *War*, *Empire*, *Lechery*, &c.

By the DOG, a *Prieſt*, and ſometimes a *Flatterer*, &c.

By the STAG or HART; *Fear*, *Laſciviæ Pœni-*

Pœnitentia, a Preparation of Arms without the Heart, &c.

By the ANT, *Foresight, indefatigable labour.*

By the HEDGE-HOG, a *Man armed against dangers, the danger of delays,* &c.

By the HOG, *Sensuality,* a *Sophist,* a *profane Fellow, Luxury,* a *Chaos,* &c.

By the GOAT, a *Promptitude of Hearing,* a *Whore, Lust,* &c. This Beast was likewise the *Hieroglyphick,* and *Sign* of *Pan,* by whom the whole Universe was understood. It is amongst the reasons given, that a *Goat* should signify *Pan,* and *Pan* the World; *Huic* (i. e.) *Pano illa in Nymphas procacitas attributa, & nunquam satiata Libido: Mundus siquidem assidue rerum species progenerat, & humore plurimum utitur, materia quippe Generationi in primis & apta & commoda,* &c. *Pier. Hieroglyph. l. 10. c. 3.*

By the SHEEP, *Innocence,* or sometimes *Foolishness,* according to the Proverb Προβάτων πρόβατον. *Like a Sheep.* Yet of old this Creature was in great esteem, and tho *Hercules* carryed no spoil but *Sheep* from his *African* Victory, he is said to have brought back *Golden Apples.* So that this was more properly the Hieroglyphick of *Riches, fertility,* &c.

By the RAM, *War, the envy betwixt Rivals, fierceness,* &c.

By the WOLF, the *Egyptians* represented, a *Man that was fearful at little,* for 'tis reported of this voracious Creature, that it flies the noise of a few Stones, when it dares encounter a Man armed *cap à pe,* this *Pierius* confirms *Hieroglyph. l.*

from his Fathers experience. The *Wolf* was likewise the Hieroglyphick of *Apollo*, *Mars*, *Improbitatis Meretriciæ*, &c. hence *Lupa* is sometimes taken for a *Strumpet*, as in that of *Cicero*, *Clodius semper secum Scorta*, *semper Lupas ducebat*. A Man holding a *Wolf* by the Ears, is the embleme of one involved in difficulties.

Cic. in *Milon.*

By the TYGER *devouring* a *Horse*, Revenge, the *Tyger* is also the *Hieroglyphick* of *Parental affection*, &c.

When they were to express *one very Ignorant*, they represented him by *the Picture of a Man with* ASS's *Ears*, which commonly is termed *Asselliceps homo*; and this the Poets feign to be the punishment of *Midas* for his bad judgment. Old *Israel* in his 17 years aboad in *Ægypt*, having seen into the Learning of the *Ægyptians*, couched many of his predictions concerning the future state of his Sons posterity, under *Hieroglyphicks*, and particularly concerning *Issachar*, he says, Issachar *is a strong Ass*, &c. Herein he made use of an Hieroglyphick *Transient*. *Cicero* says concerning *one very dull*, *Quid nunc te*, *Asine*, *literas doceam*, *non opus est verbis*, *sed fustibus*, &c.

Gen. 49.

Cic. in *Pisonem.*

By the MULE, the *Ægyptians* expressed *Barrenness*, others have signified a *Bastard*, &c. by it.

By the HARE, *Vigilance*, because she is said to sleep with her Eyes open; she is also the Hieroglyphick of *Fear*, &c.

I do not find the FOX recorded amongst the *Ægyptian* Hieroglyphicks, but amongst the Greeks

Greeks and Latines his Picture expreſt, *craft* and *deceipt*, &c.

By the VIPER, *Conjugal* or *filial ingratitude.*

By the EAGLE, *Royal Majeſty*, &c.

By the PHOENIX, the *Reſtauration of any thing that had been laid aſide*, &c.

By the HAWK, *God*, the *Sun*, &c.

By the RAVEN, *one that diſinherits his Children.*

By the BEE, a *King*, *Obedience to Authority*, &c.

By the DOLPHIN, *ſpeed*, *diſpatch*, &c.

By a *young* STORK *nouriſhing its Dame*, Filial Gratitude.

By the HEAD, the *Ægyptians* and others expreſt *Empire*, &c.

By the BACK, *flight.*

By the SHOULDERS, *ſtrength*, &c.

By the EYES, *God*, *Juſtice*, a *Guardian*, &c.

By the TONGUE, *Mercury*, *Diſcipline*, &c.

By the HEART, *Counſel*, *Life*, &c.

By the HANDS, *Authority*, &c.

By a CIRCLE, they repreſented *Æternity*, &c.

By a QUADRANGLE, *the Solar* year, &c.

By a CAP, *Liberty.*

By a SHOOE, the *progreſs of things.*

By a RING, *Truſt*, *Confidence*, &c.

By the ADAMANT, *Fortitude*, &c.

By an EMERALD, *Virginity.*

By the SUN, *God*, &c.
By an ANCHOR, *Deliberation*, &c.
By a HOOK, *Deceipt*.
By the HARP, *Concord*.
By a DOLPHIN Painted upon an ANCHOR, *Festina lente, Deliberation in Counsel*, and *dispatch in Business*.

Lib. de *Isia* & Isid.

Plutarch, relates there was a Temple in *Ægypt*, dedicate to *Minerva*, that had these Pictures Painted in the Front of it, *viz.* An Infant, an Old Man, a Hawk, a Fish, and a Sea-Horse, which is thus interpreted, YOUNG, and OLD, GOD, (signified by the *Hawk*) HATES, (by the *Fish*, their Ordinary way of expressing *Hatred*,) IMPUDENCE (understood by the *Sea-Horse*.) *Young and Old know that God hates Impudence.*

Sch. Mag. Crypt. c. 2. out of *Clem. Alexander.*

Idanthura, King of the *Scythians*, in War with *Darius*, sent him a *Mouse*, a *Frog*, a *Bird*, a *Dart*, and a *Plough*; threatning, thereby that unless the *Persians* could hide themselves in the Earth, or Water as *Mice* and *Frogs*, or fly as *Birds*, they should not escape the *Scythian Arrows*, or *Slavery*, &c.

The Sign of *Secrecy* amongst the *Romans*, was by lifting up the Picture of a *Minataur*, intimating thereby, that the thing communicate, was to be kept as *Secret* as the feigned Habitation of that Monster.

But there are Historical Emblemes or Hieroglyphicks, which likewise *signify ex Congruo*, viz. Such as relate to some common *History* or

or *Fable*: As by the Picture of *Prometheus gnaw'd by a Vulture*, is underſtood the *Reward of too much Curioſity*, &c.

For SOLUTION of all ſuch *Riddles*, little can be ſaid: There is a *good Judgment*, a *knowledge of Hiſtory*, and a *Natural Faculty* (which cannot admit of Rules of Art) required in him, that would thus Secretly expreſs his mind, or *comprehend* this way of Information ſo *expreſt*. I have mentioned it here partly, becauſe much of the Ancient Learning, eſpecially of the *Ægyptians* was veiled under ſuch myſteries, and that is no frivolous ſubject for the ſpeculation of a modern Philoſopher: And withal the knowledge of Hieroglyphicks and Emblems, as it *may* be uſeful to compleat a *Decypherer*, ſo it is no great burthen, but an Ornament to any Gentleman.

SECT. 2.

Of Signs and Geſtures ſignificant ad placitum, *or by Compact.*

This way of Secret Information by *Signs* or *Geſtures*, *ad libitum*, is capable of as great Variety, as the fancies of Men ſhall impoſe ſignifications upon all ſuch Signs and Actions, as are capable of ſufficient Differences. I ſhall only take notice of what is moſt remarkable, but I hope clear *All*.

¶ 1. *Of Characters Real, that have nothing of Emblem in them.*

I have already obſerved, that the old Hieroglyphicks, always had ſomething of *Similitude* to the *thing ſignified*, and were really a kind of *Emblemes*. But now it is certainly known, that in *China* there are certain *real*, (and not *nominal* Characters) that expreſs *things* and *Notions*, abſtracting from any *Naturnl Analogy*, between the thing *expreſt* and *ſignify'd*. And tho the ſeveral Countries, in thoſe large Territories, be altogether ignorant one of anothers *Language*, yet they entertain an intelligible way of converſe by Writing; and there wants not thoſe who have attempted to introduce this Method of an *Univerſal Correſpondence* nearer home, particularly Biſhop *Wilkins*, *Schottus*, &c. I ſhould be very unjuſt if I did not approve of the *deſign*, but I cannot conceive how this can be well accommodated to our new *Magia Cryptographica*; for it is evident, that there muſt needs be a vaſt number of theſe *dead* and *dumb* Signs *invented*, at leaſt *ſo many as there are radical words*. And this new collection of Signs ſignificant *ad Libitum*, requires too much time and trouble, to adapt it to SECRET Information.

And ſeeing it is not conſonant to the Requiſites and Deſign of *Private Intelligence*, I ſhall even leave it to be improved to better purpoſes.

¶ 2.

¶ 2. *Of Arthrology.*

Arthrologia, or the Art of *Diſcourſing* by the joynts or remarkable parts of a Mans Body, (from ἄρθρον and Λέγω) is obſerved by moſt Authors that treat upon *Secret* Converſe, and particularly by *Schottus*, who inſerts an *Arthrological* Alphabet, in Latin and High Dutch, I have hereunto ſubjoyned one in Engliſh, *viz.*

Steg. Claſſ. 12. c. 10. §. 1,2.

A	The Ear.
B	The Chin.
C	The Hair.
D	The Teeth.
E	The right Eye.
F	The Fore Head.
G	The Throat.
H	The Shoulder.
I	The Fore-Finger.
K	The Middle-Finger.
L	The Lip.
M	The left Hand.
N	The Noſe.
O	The Knee.
P	The Breaſt.
Q	Any two Fingers ſtretched.
R	Three Fingers ſtretched.
S	Four Fingers ſtretched.
T	The Tongue.
V	The right Eye-Brow.
W	The left Eye-Brow.
X	The left Eye.
Y	For Y, the mark of I.
Z	For Z, the mark of C.

The

The Practice of this would appear to be as old as *Ovid*, who was not wanting in such Observations.

Ovid de Art. Ama. *Verba supercilijs sine voce loquentia dicam.*
Verba leges digitis, verbaque vultus habet:

And again:

Sæpe tacens vocem, verbaque vultus habet.

I have known Children at School use it, and I am sure they must be still Children, or else something indued with a less degree of Knowledge, that practise it in Company; and out of Company it is good for little, because so small an Object as a particular Joint, *&c.* is not perceptible at any considerable distance.

SOLUTION.

But however if you would *Solve* this, go aside, and mark every particular Action by a Distinct Character, and it is lyable (when so noted down) to the common Rules of Decyphering.

¶ 3. *Of Dactylogy.*

Dactylogia (ἀπὸ τοῦ Δακτυλος, or from Δακτυλος, and Λέγω.) *Is an Art of discoursing by the Fingers*, and noted for its Antiquity; the An-

Ancients used to express any number under 100 by the Fingers of the left Hand, and those numbers above 100, and under 9000, by the Fingers of the right Hand. *Pierius gives us an account of their particular ways of Reckoning from 1, or *Unity* to 9000. And hence *Juvenal.* Hierog. l. 37. c. 1.

* Sat. 10. de *Pylio.*

Rex Pylius, *magno si quicquam credis* Homero,
Exemplum vitæ fuit à cornice secundæ,
Fœlix nimirum, qui tot per sæcula vitam
Distulit, atque suos jam dextra computat annos.

Now these Postures may serve to express Letters and Words, as well as Figures or Numbers. And *Schottus* is not wanting in an Alphabet this way too, *e.g.*

Expreſt by

A	The little Finger of the left Hand.
B	The little and Ring-Finger.
C	The little, Ring, and middle Finger.
D	The little, Ring, middle, and fore-Finger.
E	All the five Fingers.
F	All the Fingers of the left Hand, and little Finger of the right.
G	All the Fingers of the left Hand, and the little and Ring-Finger of the right.
H	All the Fingers of the left, and the little, Ring and middle Finger of the right Hand.
I	All the Fingers of the left Hand, and

	Expreſt by	and of the right except the Thumb.
L		All the Fingers of both Hands.
M		The Thumb of the left, and little Finger of the right Hand.
N		The Thumb, the little and Ring Finger of the left Hand.
O		The Thumb and three laſt Fingers of the left Hand.
P		The right Thumb.
Q		The right and left Thumbs.
R		The left Thumb, and the Thumb and fore-Finger of the right Hand.
S		The left Thumb, and two firſt Fingers of the right Hand.
T		The left Thumb, and three firſt Fingers of the right Hand.
V		The left Thumb, and all the Fingers of the right Hand.

The Letters wanting may be ſupplyed as before.

This falls under the former Obſervation for SOLUTION.

¶ 4. *Of ſeveral ways of Secret Information by the ſpecies of* Sight *or* Sound.

Amongſt the Secret Signs for Information *ad Placitum*, that by *Smoak* in the day time, and *Fire* in the night, is very remarkable, and ſo Ancient, that a great many Authors affirm, that this was the Sign to unlock the Wooden Horſe

Horſe at the Siege of *Troy*; eſpecially *Diodorus Siculus*, I cannot now call to mind the particular Citations.

The *Turks* of *Chios* in the Iſland of *Lesbos* in *Aſia Minor*, give notice from their ſmall Watch Towers along the Coaſt, of ſuch Veſſels as they ſee approaching, *&c.*

There are latter Inventions of Secrecy by *Torches*, &c. much inſiſted on, *viz.*

The Letters of the Alphabet may be contrived in two Tables, each of the Confederates to have one. *e.g.*

	1	2	3	4	5
1	A	F	M	R	Y
2	B	G	N	S	Z
3	C	H	O	T	
4	D	I	P	U	
5	E	L	Q	X	

When they communicate their Intentions by this Table, there muſt be ten Torches, five on the right Hand, and five on the left. The ſign of Advertiſement being given and returned, they firſt lift up as many Torches, as is the number of Colums, wherein the Letter to be expreſt, ſtands; then ſo many to the left as is the number of the Line. *v.g.* Suppoſe the Confederates would expreſs the Word VENIETUS: Firſt the Informer holds up 4 Torches in the right Hand, to ſignify, that the Letter

to

to be expreſt, *viz.* (U) is in the 4th Column, then other 4 Torches to the left Hand, to ſhow that it is in the 4th Line: Next he lifts up one to the right Hand, and 5 to the left, intimating the Letter expreſt is in the 1ſt Column, and 5th in order, *viz.* E and ſo of the reſt as *Wekerus* hath it.

Weck. de Secret. l. 14. cap. 1.

Now this difficulty is eaſily SOLVED, for if at the firſt up-lifting of the Torches, you mark down 4, the number of Torches, and at the next motion 4, at the third 1, and at the fourth 5, *&c.* You ſhall have it in Cypher at laſt, thus:

44153224153144 42.

Which may be RESOLVED by the Rules given in the firſt Chapter. Here you ſee that two motions go always to the compoſition of one Letter, thus,

44, 15, 32, 24, 15, 31, 44, 42,
V E N I E M U S.

Be ſure to obſerve every different Sign by a particular mark, for if you loſe one motion, you may render your labour uſeleſs, but if you take all, you ſhall not only have the *Secret* in *Character*; but you will find out by the mark of Advertiſement when any word ends.

Schottus propoſes a way how this may be performed with one Torch only. *v. g.* One elevation to expreſs A, 2, to ſignify B, 3, C 4, D, *&c.*

But this contains no new Difficulty in it

SO

SOLUTION, and therefore I paſs it over.

There may be other Signs for Secret Information, *viz.* at Sea by *Flags* of different Colours, as *White*, *Red*, *Blew*, &c.

By a *Trumpet*, a *Drum*, a *Bell*, &c. in reference to the Ear. As alſo by Muſical Notes, *&c.*

The order of managing either may be underſtood by the Tri-literary or Bi-literary Alphabets. Chap. 1. Sect. 3.

Other Obſervations than what you have already for DECYPHERING are needleſs; only in marking the particular differences as to the ſpecies of *Sound* and ſometimes of *Sight*, you may write down the firſt Letter of the thing uſed for Information, as B. for *Bell*, T. for *Trumpet*, C. for *Cannon*, R. for *Red*, W. for *White*, &c.

CHAP. III.

Of CRYPTOLOGY, *or that* SECRECY *conſiſting in* SPEECH.

I Have already obſerved, that the Method of Treating of things here, is only in order for the Readers eaſe; for if I had purſued this Deſign from the order of *Nature*, or *Time*, there muſt have been ſeveral re-

returns; but as things now ſtand, there is a clear Progreſs (I hope) without any thing of impediment in the way; and the further you go, you have the clearer proſpect of what is before you.

Etymology. This Art is termed *Cryptologia*, from κρύπτω, and λέγω, *Secretly to communicate our Thoughts by* SPEECH. The way of *Communicating* our *Thoughts*, is reckoned threefold; or, there are three means of *Converſe*, viz. By SPEAKING, by WRITING, or by SIGNS and GESTURES. *Words* are, or ought to be the *Picture* of *Conceptions*, as *Letters* are the *Images* of *Words*, the *Tongue ſpeaks to the Ear, but the Geſture to the Eye*, &c. As King JAMES elegantly expreſt it.

To each of thoſe three ways of diſcourſe, human Policy hath added, a deceipt, *viz.* CRYPTOLOGY, CRYPTOGRAPHY, and SÆMÆOLOGY by *Compact*, the two *laſt* are already conſidered.

And to return to the *firſt*, the common uſe of Language is twofold.

1. That others may diſcover their Intentions to us.

And 2. That we may unfold ours to them, ſo that the Tongue was deſign'd for an Interpreter of the mind, but that it is often very unfaithful to its truſt, is not to be doubted much leſs deny'd. It is ſtoried concerning the *French*, that they neither *Write* as they *Speak*, nor *Speak* as they *Think*. And 'tis pity that they are not ſingular eſpecially in the laſt part. But this mo-

Moral Defect of *Veracity* lies at present out of my Road, for a Man may *truly* (tho *Cryptically*) express bad Conceptions, and 'tis the Discovery of that Art is now my Province; yet it borders so near upon the former, (while both have one general aim to DECEIVE) that I could not altogether pass it.

Cryptology or the *Secrecy* in *Speaking* may consist, 1. In the *Matter*: 2. In the *Words*.

SECT. 1.

Of Secrecy in Speech in respect of the matter.

Cryptology is said to consist in the MATTER, *when the thing we would utter is concealed under the expression of some other matter, that is not of obvious conceipt*, so Bishop *Wilkins* hath it.

Now as to this particular kind of Secrecy, by which one thing is *said* and another *understood*, the Words in themselves, have some *Relation* to the thing signified by them, either *Natural* or by *Compact*.

¶ 1. *Of* Cryptology, *wherein there is some Analogy between the thing* said, *and the matter* signified.

This differs little or nothing from *Permanent*, or *Transient Hieroglyphicks*, except only that by the last, the Secret Intention is *communicate* by some Actions; as in that of *Tarquinius Superbus*.

For if he had told his Son, those Higher Ears of Corn, (or as *Frontinus* relates it Poppy) that overtopped the rest must be Cropt, the Words were capable of the same Interpretation, as when he actually cut them off himself, *&c.*

Vid. Sec. and Swift Mes. p. 19.

To this Head are reducible, *Metaphors*, *Allegories*, *Parables*, *Fables*, and all that *Ænigmatical* Learning the *Ægyptians*, and others were so much addicted to, *Quia sciunt inimicam esse Naturæ apertam, nudamque expositionem sui, quæ sicut vulgaribus Hominum sensibus, Intellectum sui vario rerum tegmine, operimentoque subtraxit, ita à Prudentibus Arcana sua voluit per fabulosa tractari.*

Macrob. in Som. Scip. l. 1. c. 2.

It is requisite in this Art to make choice of such a Subject, as may bear in it some proper Resemblance to the business in Hand, and to make the several parts of the Similitude fitly answer the several Passages of greatest moment. And this requiring a *Natural* Faculty, it is clear, that such ways of Secret Information cannot be accommodated to *all Persons*, and consequently not to *all Exigences*. Besides that it cannot be safely adventured on, before a Man of sense, who may trace the meaning through the several parts of the Similitude, *&c.*

But Allegories, *&c.* have in other things a more genuine use, being observed to excite the Fancy upon an Argument, and often to bring the Adversary over unawares to an acknowledgment, while plain Arguments and Moral precepts are more flat in their Operation. I remember *Knolls*, in his History of the *Turks*, Relates,

lates, That *Bajazet*, one of their moſt fiery Tyrants, having reſolved to deſtroy a great many of his Chief Officers, about the time when *Tamerlane* was on his March to invade him; (at leaſt when *Tamerlane*'s Deſigns were known at the *Ottoman* Court.) *Alis Baſſa*, the Chief Miniſter at the *Port*, dared not open his Mouth for their Reprieve: And if he had, he had undergone their Sentence. And tho' thus forced to lay aſide as weighty Arguments for their Lives as any Circumſtances of *Reaſon* or *State* could afford: The Tyrant's unruly Paſſion was overcome by a kind of *Metaphor* out of his Jeſter's Mouth; who appearing before *Bajazet* with a great Drum, bid him, Cauſe hang thoſe Villains preſently that had offended him: For (ſays he) you ſhall have no Uſe for them: You and I will fright that Numerous Army of *Tartars* that are approaching: For I can beat a terrible March upon this Drum, and you may come up with a dreadful Countenance, and the day's your own.

When *Cyrus* had put the *Medes* to Flight, their Mothers and Wives upbraided them in their Flight by a homely *Metaphor*, related thus by *Juſtin. Matres & Uxores in Prælium contra Cyrum fugientes, occurrunt; ſublata veſte, obſcæna corporis oſtendunt, rogantes num in uteros Matrum vel Uxorum velint refugere.* But this being Foreign to my Deſign, I leave it. *Juſtin. l. 1.*

¶2. *Of that Secrecy in* SPEECH *wherein the* Relation *between the Words Expreſt and underſtood, is merely by* Compact.

That there may be Contrivance of Secrecy, wherein the Relation betwixt the thing *expreſt*, and the thing *ſignified*, is by Compact agreed upon, is beyond Controverſie. Inſtances of this Nature have been but too frequent.

The *Powers*, or uſual *Signification* of *Words*, may be altered as well as that of *Letters*: And by this Fallacy, the Sence of any Writing or Diſcourſe as much confounded; yet you muſt ſuppoſe that this way can only cloak ſome Perſons, or things, not a whole Deſign, if rendered practicable. He that reads *Argile*'s long Letter decyphered (as in the *Diſcoveries in* Scotland) may eaſily perceive in the ſeveral Steps, the Lines of an intended Rebellion, tho' without all doubt, he at firſt, when he framed his Alphabet of Words, provided as much againſt a Diſcovery of the Sence of his Epiſtles, as could be, when adapted to a current Correſpondence: But Humane Policy cannot foreſee all future Contingencies: And tho here we chiefly mention this in Reference to *Speech*, yet you ſee it hath been committed to *Writing*.

And having mentioned *Argile*'s Long Letter, I ſhall inſiſt on ſome of the *PARTICULARS*, contained therein. He is more than ſhort-ſighted, nay, more than half blind, that does not

not ſee in it a Deſign of *raiſing Money*; and that this Money is to be employed upon *Men* and *Arms*, againſt the *Forces*; and conſequently the *Eſtabliſhed Government* of *BRAND*. What is to be underſtood by *BRAND*, *viz. Scotland*, the occurring Circumſtances do ſufficiently evince,

1. By the Number of *Standing Forces* there, *viz.* 1200 Horſe and Dragoons, and 2000 Foot.

2. From the *Station*, theſe Standing Forces would probably take up, *viz. Stirling*.

3. From the *Aid* of the Standing Forces, *viz.* a *Militia* of 20000 Foot, and 2000 Horſe, and the *Heretors*, *&c.* to the Number of 50000.

Thus having by the concurring *Circumſtances* diſcovered *BRAND*, to ſignifie *SCOTLAND*, That might help to underſtand ſome other of his Canting Terms, *E. g. And tho we had at firſt the greateſt Succeſs imaginable, yet it is impoſſible but ſome* (of the Forces) *will keep together, and get ſome Concurrence and Aſſiſtance, not only in* Brand, *but from* Birch *and* Ireland, &c. From this one Expreſſion, it is eaſily conceiveable, that by *BIRCH*, is underſtood *ENGLAND*.

Next, As to *BROWNE*, it muſt ſignifie *True Diſſenting Proteſtants*, from the following words. *How can* BROWNE *employ ſo much Money, and ſo many Horſe better for* THEIR *own Intereſt, tho the Proteſtant Intereſt were not concerned*, &c.

Note, *THEIR* denotes the plural Number.

And theſe, at preſent, ſhall be all the Animadverſions I will make to diſcover the Falla-

cy of this Method, equally applicable in *Speech*, or an Epistle.

¶ 3. *Of* Cryptology, *without any Alteration in the Words.*

This is performed by using Words in *Speech*, that are *insignificant* as to the Confederates, yet have a natural Cohesion amongst themselves, and guard that which is really secret from *Suspicion*, the Pane of *Secret Speaking*; and that either in an Oration, or even in common Discourse, *e. g.*

Suppose the words immediately following any *animate Being* mentioned, should be only significant, and the Words that follow such Pronoons, *&c.* as relate to *Animate Beings.*

Steg. p. 320,321. *Schottus* proposes the Method, and does demonstrate it by the following Example.

Let the Speaker's Secret Intention be to admonish the Confederates to make their Escape, and the Words these;

Sumus in periculo; cavete.

The Discourse might run thus:

In manu DEI sumus *ubicunque versamur. Hanc ob Causam NOS* in *rebus adversis nequaquam pusillanimes esse debemus; quoniam DEUS* periculo *omni eripere potest. Ergo AUDITORES* cavete, *peccata, & curam rerum vestrarum permittite DEO, &c.*

Here the words which express *Animate Beings*, are *DEI, NOS, DEUS, AUDITORES.* And the words immediately following, *Sumus in periculo; cavete.*

I have

I have hereunto ſubjoyn'd an Example in Engliſh. Suppoſe the words to be communicated, were,

Fly, you are diſcovered.

The Diſcourſe may be to this Effect, Let every MAN *fly* to his Duty. GENTLEMEN, *you* now ſee what PEOPLE *are*, and may do in their Madneſs: But WE *diſcovered* long ſince their Folly, *&c.*

The Words that direct to the Meaning, are, MAN, GENTLEMEN, PEOPLE, WE. And this, I hope, is ſufficient for Explanation.

1. I know this Method is ſufficiently capable of Variation; for *Terminations* of Words (inſtead of *Animate Beings*) may be the Index.

2. *Words* may (by private Agreement) be remarkable from their *place*, as the *firſt*, *fifth*, *tenth*, *fifteenth*, &c. to be only ſignificant. But this (except in a premeditated Diſcourſe, which requires time to frame it) is hardly practicable.

3. The Words that expreſs the private Intimation, may be diſtinguiſht by ſome ſecret Sign, *&c.* But this, if obſerved, will give ground for Suſpicion; and being once ſuſpected, it is not ſafe; and needs no other Rule but Attention for to find out the hidden Meaning.

For *RESOLVING* the other ways mentioned in this *Paragraph*, the moſt ſure way were to take the whole Diſcourſe in Short hand; or if you can remember it *verbatim*, it will ſave

ſo much trouble: And afterwards having writ it out, firſt, joyn the Words together that go before or after *Animate Beings*, and Relatives that belong to *ſuch*: And if that will not reſolve the Riddle, joyn other Words that follow the particular Terminations, *&c.*

However, I believe, there might be as many found to unriddle all ſuch politick Myſteries without any other Trouble than that of Attention, as they are that can handſomly frame them upon any occaſion.

SECT. 2.

Of Cryptology, *Or that ſecrecy in* Speech *which conſiſts in the* WORDS.

¶ 1. *Of Invented Words.*

Secr. and Swift Meſ. *p.* 21.

That Secrecy in Speech, by inventing new Words, is mentioned in the *Secret and Swift Meſſenger*: And to this the Author refers the *Canting of Beggars, Charms of Witches and Magicians*, &c. And I muſt acknowledge my Ignorance in both.

But if by *Inventing of new words* he underſtands a new Language, it would require too much Time and Trouble to invent and learn it (as is obſerved in another place:) And withal, the Confederates ſhould to better purpoſe practiſe upon ſome of the *Eaſtern* Languages, *&c.* already invented to their Hand, and perhaps

haps fully as intricate to the Company they intend to impose upon: Nay, why might they not whisper; or speak *apart* in their Mother Tongue? *Either* of which are as little off the road of common Civility, as the new Language, and *all* are alike lyable to Suspicion.

If by *Inventing new words*, he means some few that may be serviceable upon Occasion, its difficulties are consider'd in the *second Paragraph* of the *preceding Section*, &c.

¶ 2. *Of the Alteration of any known Language in Speech.*

The Author last mentioned, Proposes four ways for altering the Words of a known Language. See. and Swift Mes. p. 23, &c.

1. By *Inversion*, and that either of *Letters* as *Mitto tibi METULAS*, &c. (*i. e.*) *SALUTEM*; or of the Syllables, as *Tubos estad, veca biti*, (i. e.) *Hostis adest, cave tibi*, &c.

2. By *Transmutation* of *Letters* as in CHAPTER 1.

3. By *contracting* some *Words* in *Pronunciation*, according to the Common Abbreviations used in Writing as *Aa* for *Anima*, *Ho* for *Homo*, *Raalis* for *Rationalis*, *Aal* for *Animal*, &c.

4. By *Augmenting Words*, as in doubling the Vowels, &c. E. G. *Ongeur Ploget*, (i. e.) *Our Plot*, &c.

Most

Moſt of which are ſo Childiſh that perhaps it is too much to have mentioned them; and I am ſure no Body would thank me for my Pains to inſiſt upon them.

¶ 3. *Of Secret* Conveyance *of* Words.

Steganographiæ p. 327, 328, &c.

Schottus, mentions ſeveral ways of Secret ſpeaking to this purpoſe, and to be performed without Suſpicion, even tho there be ſeveral People in Company; in moſt of which the Requiſites are enough of themſelves to create a Jealouſie.

One is, *Si eligantur Ambulacra*, &c. There muſt be a long Gallery with Arches, *&c.* Where if one apply his Mouth, and the other his Ear, to the oppoſite ſides of the Arch, he ſhall diſtinctly hear the leaſt whiſper, the other utters; and thus he would have them behave, for fear of Suſpicion.

Another Requiſite is a long Trunk or Pipe to convey the Words, *&c.*

In ſhort, all he mentions have more of Ingenuity in the Contrivance, than uſe as to the Communicating any Secret concern in Agitation.

Walch. Fab. 9.

There is an Experiment for Secret Conveyance of *Words*, inſiſted on by ſome, thus, Let there be a Trunk or Pipe contriv'd, and one of the ends of it cloſed up, ſo as no Air can have the leaſt entrance or egreſs: At the other end which is to be the only Orifice; they are to convey in, what Words or Sentence they intend

to

to communicate: And these being instantly secur'd in the Pipe, from taking harm by Air, they Fansy the Articulate Words by this means are entirely preserv'd in good Order, and may be carry'd hundreds of Miles; until the Confederate open the end of the Trunk agreed on, and receive the Message. And this puts me in Mind of that very common and known Fable of a violent Frost in a cold Climate, that arrested Words in the Air, which were never heard of again until a Thaw came, that loos'd them very orderly from their *un-natural* or rather *supernatural* Captivity.

Bishop *Wilkins* himself condemns the folly of proposing, and credulity of believing such Propositions for Secret Information: Being, the *Species of sound, are multiplyed in the Air, by a kind of Continuation, and Efflux from the first* ORIGINAL, *as the Species of Light from a Luminous Body: either of which once separated from their* CAUSES *do presently vanish*, &c.

But tho no Engine can be framed to *preserve* the Voice; yet there are several Improvements in *directing* it, as by *speaking Trumpets*. The Emperor *Severus* fortin'd the North of *England*, against the Incursions of the *Scots* and *Picts*, with a Wall extending from *Carlisle* to the River *Tine*, the Wall had Towers at every mile's end, and betwixt every Tower, there were small Watch Houses at a convenient distance one from another, and between these Watch-Houses a Trunk or Pipe of Brass passed in the Curtains of the Wall, so that in a short time,

all

all those in the Towers had notice of any approaching Enemy, as *Cambden* relates; but this was rather a Contrivance for *Swift* than *Secret* Intelligence.

I know there have been *speaking Statues*, and for a good token, *Albertus Magnus* having spent thirty years in framing *one* to express *Articulate* sounds, *Aquinas* designedly broke it, and in a Minute ruined the Labor of so much time. But I cannot see how this can contribute much to the Design of Secret Information: And sure it is nothing of kin to *Walchius*'s Fable.

Weckerus de *Secretis*, *Lib.* 14. cap. 1. proposes several ways of *Secrecy* in *Speech*, but anticipates any other Man's Observations by condemning the Methods himself, except what we have considered in other places.

Upon the whole; Cryptology where it is liable to Suspicion (as it can hardly be otherways) is impertinent, and a publick abuse upon those present, if the Confederates be at *Liberty:* Nay, *Schottus* himself censures it, *Modus, quo aliqui utuntur, spectantibus alijs, insusurrando submisse in aures, quod audiri ab adstantibus nolunt, rusticus est, & indecorus, ideoque fugiendus:* and subjoins the following story, *Johannes Basiliades, Magnus Muscoviæ Dux, gladium stringi jubebat in ejusmodi Collocutores in præsentia sua.* And further adds, *Idem judicium esto, de modo, quo aliqui, nutibus, gestibus,* &c. *sibi quidpiam mutuo indicare nituntur.*

Steganog. p. 328.

And

And when one or more of the Confidents are *confin'd*, and under the conſtant Eye of Keepers (who will not admit of ambiguous or unknown Language, *&c.*) it is *uſeleſs*. I proceed next to.

CHAP. IV.

Of Secret Means for conveying Written Meſſages.

THIS part of Secret Correſpondence I call Cryptogrammatophoria from κρύπτω, γράμμα and φέρω. The Practice of it is of an old ſtanding; and I believe it was from the Inconveniencies that *Secret Conveyances* alone were liable to, the other Methods of Secret Information in the particular ways of Diſcourſe mentioned, were firſt invented.

In this Chapter, I ſhall not tye my ſelf up to any Method, but only give you a mixed account of thoſe Secret ways of *Conveying* Meſſages, I have met with in any Author of Note, and recommend *Circumſpection*, as the only means of Diſcovery; for the Subject will admit of no other *SOLUTION*.

Hav-

Justin. l. 1. &c. *Harpagus* the *Mede*, when he would exhort *Cyrus* to a Rebellion against *Astyages* the King, his Grandfather; conveyed, his Letters to that intent, in the Belly of a Hare, and sent them by a Servant in disguise of a Huntsman, who got an unsuspected passage to *Cyrus*: And by this Treason was the Empire translated to the *Persians*, till then an obscure People. This fell out about the year of the World 3400.

Cluv. Epitom p. 56.

The like Stratagem is related of *Demetrius*, Son of *Antigonus*, one of the Successors of *Alexander* the Great.

Epistles have been often delivered to Persons in their Food, thus *Polycretes* deceived *Diognetus* the *Phœnician* General, having given notice of their Confusion upon a Plate of Lead, and sent it in a Tart, and by this Stratagem *Diognetus*'s Army was cut to pieces by a despised Enemy. This is related by *Baptista Porta*, & *Schottus*, &c.

Lib. de Ziph. c. 6. Steg. p. 299.

Epistles may be concealed into unbaked Leaven: And afterwards that part which contained the Message, cut off, and given to a trusty Servant in disguise of a Beggar to be conveyed to the Confederate: And to this purpose, *Schottus* relates, That in the late War betwixt the *Swedes* and *Poles*, a *Polish* Souldier imploy'd on such a Message, having past most of the *Swedish* Troops, and Garrisons with private Instructions, which he had undertaken to carry for *Dantzick*, and concealed in a Loaf of Bread, was at last robb'd of his Provision by a hungry Souldier belonging to the *Swedes*: And

Steg. p. 297.

by

by this means the Secret was accidentally diſcloſed.

The ſame Author has another late paſſage concerning a Perſon of Quality, Priſoner in the *Netherlands*. This Gentleman's Friend encloſed an Epiſtle into a very fair Pear, which he ſent him with other Fruit, not doubting but he would chuſe it firſt, and ſo receive therein the Meſſage: But the event anſwered not the Expectation, for that Pear was left untouch'd, and with the private Epiſtle, fell into the Keeper's Hands, for whom it was leaſt deſigned. Steg. p. 298.

He likewiſe propoſes two ſeveral ways of conveying an Epiſtle into an *Egg*.

As alſo, *Baptiſta Porta*, *Weckerus*, &c. have a great many Methods of Imprinting Secret Intentions upon an *EGG*, without any Suſpicion. Such as,

1. How the Impreſſion will not be viſible until held between a Light and the Eye.

2. How the Letters ſhall only appear upon the White of the Egg when boil'd.

3. How Letters deſcrib'd upon the Shell of an Egg, ſhall not be perceived, but in Water.

4. How nothing ſhall appear until the Egg be held by the Fire. And

5. How the Writing ſhall continue inviſible until Duſt be ſcattered upon the Egg.

Porta, *Schottus* and others likewiſe tell us, That if we Write with Gum-Arabick, or Tragacanth, diſſolv'd in Fountain Water, upon Cry- Lib. de Zi- ph. c. 3. &c.

Cryſtal or Glaſs, the Writing will not appear until Duſt be thrown upon it alſo, and *Porta* adds that this being a Tranſparent Body, cannot be lyable to Suſpicion, tho they themſelves render it ſuſpected by publiſhing it.

Epiſtles have been ſometimes concealed in Cloths, which practice is noted by *Ovid, de Art. Amandi.*

Conſcia cum poſſit ſcriptas portare tabellas,
Quas tegat in tepido faſcia lata ſinu,
Cum poſſit ſolea chartas celare ligatas,
Et vincto blandas ſub pede ferre notas.

Steganog. p. 286, 287, &c.

Schottus cites ſeveral Authors who give an account, of Secret Epiſtles hid betwixt the Soles of a Man's Shoes, and intercepted, the Writing is generally cut out upon Lead.

Epiſtles have been likewiſe concealed in a Woman's Hair.

Machiav. Lib. 7. of the Art of War.

Some have Writ their Secret Intentions upon the inſide of the Scabbard of a Sword; as alſo upon Swords and other Armour.

We hear of an Epiſtle wrapt up in a Wax Candle, and ſent to the Confederate with this verbal Meſſage, *That it would light him to his Buſineſs.*

Secr. and Swift Meſ. p. 29.

Baptiſta Porta, Lib. de Ziph. Chap. 6. propoſes a way to conceal an Epiſtle within an Artificial *Stone.*

There

There is likewiſe a way of Writing upon a *Stone*, with Goat's Fat, which Letters will not be viſible till dipt in Vinegar.

Letters may be deſcrib'd upon a Tablet of Wood, a Napkin, or Hankerchief, which will not be legible until Duſt be firſt thrown upon them.

Schottus mentions an Ingenious way of concealing an Epiſtle in a Glaſs Bottle, or Viol, *viz.* by taking the Bladder of a Hog or Calf, and having blown it to the utmoſt extent, when it is throughly dryed, they Write on it their Secret Intentions; afterwards preſſing out the Air, they convey it into a Viol or Bottle, leaving the Neck without, by which they extend it a ſecond time, when in the Viol, with Air: And filling it with Oyl, they ſeal all up, and ſend it to the Confederate; the Oyl will appear in the Bottle, but not the Writing. *Note*, the Viol muſt be prepared with ſome Glutinous Moiſture before hand, otherways the Bladder ſhould not continue extended to receive the Oyl into it. Steg. P. 289.

This Author propoſes another way of concealing an *Epiſtle*, in the Wax that is uſed to Seal *One*, the Method is this; 1. They write an Epiſtle of any ordinary concern. 2. Having contrived their Secret Intention in as few words as is poſſible, they write it down upon a ſmall piece of thin Paper. Then 3. having folded it up, they dip it in Oyl, that the Wax may not adhere to it. And laſtly conceal it within the Wax of the other Letter.

Note. *The Seal must be very large, otherways the Secret Writing cannot be contained within its impression; or in case the Letter were intercepted, the Secrecy might be detected in breaking it open.*

Demaratus, King of *Sparta*, being dethroned upon suspicion of Bastardy, banished his Native Country, and received into the *Persian* Court, betrayed the Counsels of *Xerxes*, to his Country-men in this manner, *He cut out the Secret Information in a Tablet of Wood, and then covered the Letters with Wax*, and sent it by one of his Servants unto the Magistrates of *Lacedæmon*, who knew not at first what to make of it; they could see nothing written, and yet could not imagine, but that it should import something of moment. But at last the Kings Sister having accidentally discovered the Writing under the Wax, and the Writing the Intentions of *Xerxes*, to make War upon *Greece*; the *Grecians* were so well provided for the War, That they gave a defeat to an Army of 3235220 Men, according to the Historian's Computation.

Justin. l. 1 Cluv. p. 64. Flosc. Hist. Arco. 7, &c.

Hamilcar feigning himself to be banished by the *Carthaginians*, was kindly received by *Alexander* the *Great*, and in the same manner gave notice of his Intentions.

Justn. l. 21.

I meet with several Improvements of this Stratagem.

As 1. There may be a Tablet made of Poplar, or some other soft Timber, and the Confederates having provided a set of Iron Letters, they imprint upon it to a considerable depth, what

what they intend to communicate; then they cut down the Timber until nothing of the former Impreſſion appear, and having ſmoothed it, they may perhaps paint it over to prevent ſuſpicion, and ſend it whither they will. The way taken by the Confident (to whom it is directed) to find out the *hidden* ſenſe; is by ſteeping it for ſome time in Water, until thoſe parts of the Tablet that were contracted by the preſſure ſwell above the reſt, and diſcover the former Impreſſions. Bapt. Port. Li. de Ziph. c. 5.

Note. *The Timber may be contrived (after the Letters are imprinted) into Timber Veſſels*, &c.

2. This Author teaches, not only how to write Secretly upon Timber, but alſo by what means a Man may conceal a Written Epiſtle within Timber, and inſtanceth that experiment of *Theophraſtus*, by inciſion into a growing Tree, firſt carefully taking off the Bark, then putting the Epiſtle into the vacuity, and laſtly by binding up the Bark again in its old place, until nature ſufficiently conceal the Secret. But even againſt the *Poſſibility* of this there are conſiderable doubts, which I ſhall not ſtay to propoſe: Yet granting a *Poſſibility*, this way is inconſiſtent with diſpatch, the life of Secret Deſigns.

3. *Porta* affirms, this might more commodiouſly be performed in dry Timber, *e.g.* in a *Firr* Tree, by cutting the Bark, and making a vacuity (as before;) for the Bark may be affixt to its former place by a kind of Glew, which reſembles the natural Rozin of that kind of Timber.

Baker's Chron. of the Kings of *England*, p. 492.

4. In *Baker's* Chronicle, we have an account of one *Froſt* who carried Letters in a hollow Staff, between the Rebels of both Kingdoms, in the beginning of the late troubles.

Schottus gives ſeveral Hiſtorical Inſtances to this effect; and particularly relates from his own knowledge, that very lately ſome Travellers had been apprehended in *Moravia*, and Treaſonable Letters found in their Canes.

Schot. Steganog. Claſs. 12. c. 2.

5. The Learned Author of the *Secret and Swift Meſſenger*, affirms, That ſome have uſed to write upon leaves of Trees, and with theſe to cover Ulcers, *&c.* Which is likewiſe obſerved by *Schottus*.

6. And this brings to my remembrance a Stratagem, which I had from a very good Hand. A Gentleman being employed to carry Letters of very great moment, with all privacy; he affixt them by a Plaiſter to ſome Fleſhy part of his Body, which afterwards he cauſed to be Artificially painted over in the Natural colour of his Skin.

Letters have been ſometimes inſcribed upon the Meſſengers Fleſh, a Device not unknown in *Ovid's* time.

Caverit hoc cuſtos, pro chartâ conſciâ tergum
Præbeat, inque ſuo corpore verba ferat.

And long before *Ovid's* time, *viz.* about the year of the World 3539, *Hiſtiæus*, the Tyrant of *Miletus*, chuſing one of his Servants that was troubled with ſore Eyes, pretended that for

for his recovery, his Hair muſt be ſhaved and his Head ſcarify'd, in performing which, he took occaſion to imprint upon his Servant's Head his Secret Intentions, *viz.* about revolting from the *Perſian* Government; and keeping him at home until his Hair was grown; he afterwards ſent him to *Ariſtagoras* the *Perſian* General then in *Greece*, to whom his deſign was to be communicate, under preſence of his Servant's perfect recovery, and (ſays he) "When you come to *Ariſtagoras*, tell him, "That I deſire he may Shave you with his own "Hands as I have done, for it is the only "means to reſtore you, *&c.* The Meſſage went ſafe, for the Meſſengers Head faithfully delivered the Secret that never troubled his Brain, but in the end *Hiſtiæus* loſt his own Head, the due reward of his Treachery. This is related by *Herodotus*, and out of him in *Aulus Gellius*. See alſo *Floſc. Hiſtor. Arcol. 7. &c.*

Aul. Gell. Noct. Att. lib. 17. c. 9.

As in this, ſo in moſt of the other Contrivances mentioned, the Meſſenger may be altogether Ignorant of the Meſſage he carries; as in a Bottle, which he knows to contain nothing but Oyl; or Secret Intimations upon, or within a *Stone* or *Timber*, &c.

But as to this way of *Writing* upon the *Meſſenger's Skin*, *Porta* promiſes great Security, his Words are theſe: *Sed nos poſſumus Epiſtolas mittere, & ſcribere loco etiam, ut non poſſit ab aliis, niſi iis quibus Literæ deſtinantur, intelligi; & qui eas fert ad quamcumque diſtantiam; etiamſi in via comprehenſus fuerit, & interrogatus per tormenta,*

Mag. Nat. Lib. 16. Cap. 18.

ta, nil possit fateri, quia nil è penitus constat, & Epistola semper manebit Occulta. Nec tempus aut itineris labor Characteres abolebit, quia nec à pluviis, nec ab ipso sudore aboleri possunt; unde nec refert si Lator per mare & flumina transeat, &c.

In short, *Porta* endeavours to prove by the *best* Arguments (which must necessarily in this Case proceed from Experience) that Letters may be imprinted upon the Messenger's Back, *&c.* which shall be indelible by Sweat, Water, or any Mosture; until Dust, or other things applicable to Paper, be made use of.

See the last Sect. of the first Chap.

He likewise proposes a way, how the Letters writ upon the Messenger's Skin, may in a few days vanish: And treats of several Soporiferous Medicaments, to throw him into a deep sleep, or insensibility, during the Operation. The whole may be lyable to several doubts, but it lies out of my road to examine them.

Messengers *Conscious* of their carrying Secret Messages have Metamorphos'd themselves in very differing shapes upon Occasion.

Front. de de strateg. l. 3. c. 13.

Lucullus the *Roman* Prætor coming to the Relief of the *Cyzicens* (besieged by the Famous, tho Unfortunate *Mithridates*, King of *Pontus*) sent one of his Soldiers to give the Besieged notice of Relief; who, being to pass a River, did Swim over supported by two *Bladders*, in dis-

diſguiſe of a Sea-Monſter, and preſerved the Letters he carryed in one of *them*.

The like Contrivance is related to have been practis'd by *Hircius*, to *Decius Brutus* (two *Roman* Conſuls) the laſt being beſieged by *Anthony*, only the Epiſtles were inſcrib'd on Lead Plates. Front. ib.

Biſhop *Wilkins* in his *Secret and Swift Meſſenger*, ſpeaks of Inventions, whereby a Man may paſs under the Water, if there were a long Trunk or Pipe likewiſe contriv'd to let down freſh Air to the Meſſenger: But withal he tells us that to prevent ſuch *Conveyances* the Enemy uſed to croſs the Rivers with ſtrong Nets, and to faſten Stakes in ſeveral parts of the Channel; but 'tis a great queſtion whether this *Experiment* be *practicable*. And the ſame Author in a Treatiſe he publiſh'd, a conſiderable time after his *Secret and Swift Meſſenger*, ſpeaking of *ſub-marine Navigation*, and the Requiſits for performing it, does not mention any Contrivance for letting in *freſh Air*: The three things he reckons conſiderable in the Caſe are theſe; *1ſt. That the Veſſel it ſelf ſhould be of a large Capacity, that as the Air in it is corrupted in one part, ſo it may be purified, and renewed in the other*: *Or if the mere Refrigeration of the Air would fit it for breathing, this might be ſomewhat helped with Bellows*, &c. *2dly*. That *the Lamps or Fires in the middle of it, like the reflected Beams in the firſt Region, rarifying the Air, and the Circumambient Coldneſs towards the ſides of the Veſſel, like the ſecond Region, cooling and* Mathemat. Magick. Lib. 2. Chap. 5.

condenſing it, would make ſuch a viciſſitude and change of Air, as might fit it for all its proper uſes. 3*dly.* He cites *Merſennus*, and tells us, *That there was in* France *one* Barrieus, *a Diver, who had lately found out another Art whereby a man might eaſily continue under Water for ſix hours together, and whereas ten Cubical feet of Air will not ſerve another Diver to Breath in for half an Hour, he by the help of a Cavity, not above one or two foot at moſt, will have Breath enough for ſix Hours, and a Lanthorn ſcarce above the uſual ſize to keep a Candle burning as long as a Man pleaſes.* By what Means he arriv'd to this Art I hear not.

In the *Secret and Swift Meſſenger*, we hear of Meſſages conveyed by Perſons in Coffins as dead, *&c.*

There are many Relations in Hiſtory, of Brute Creatures, that have carried Intelligence betwixt Confederates: I ſhall mention a few.

Ælianus, l. 6. cap. 7. relates that one *Menthes* a King of *Ægypt*, kept a Crow he had made ſo very tractable, that having received from him the particulars of its Commiſſion, it would carry a Meſſage to any part of the World.

In *Trithemii. Polygraph.* pag. 96. It is related that *Hircius* and *Decius Brutus* (already mentioned) kept a Correſpondence by the help of Pigeons.

Saladine,

Saladine, the *Sultan* of *Ægypt*, is ſaid to have uſed this way of giving and receiving intelligence at the ſiege of *Ptolemais*, about the year 1194, *&c.*

There are other Modern Relations to this effect which I paſs over. See Front. Lib 3. cap. 11. 13. de Stratag.

Dogs have alſo been uſed for Meſſengers upon Urgent Occaſions, having Epiſtles fixt to, or rather incloſed in their Collars, *&c.* See *Juſtus Lipſius Cent.* 1. *Epiſtolarum ad Belgas*, 44. and out of him in *Schottus*'s *Steganographia*, &c. As alſo Schot. Steganogr. Claſ. 12. c. 2.

Baptiſta Porta has a cruel kind of Device ſecretly to convey Letters, *viz.* to give a Written Meſſage roll'd up in a piece of Bread to a Hungry Dog, whoſe Belly the Confederate is to rip up before he receive the Secret. Mag. Natur. lib. de Ziph. c. 6.

Arrows, *Darts*, &c. have long ſince been uſed for greater Deſtruction, than the killing of ſingle Enemies; for whole Cities have been attempted by means of one Shot out of a Bow, *Cleonymus* King of *Lacedæmon* at the Siege of *Trezen*, cauſed ſhoot Arrows into the Town with notes affixt to them containing theſe words, ἥκω, τὴν πόλιν ἐλευθερώσων, *I come, that I may reſtore Liberty to this City.* And the Citizens were ſo *Credulous*, I dare not ſay *Good natur'd*, as to believe this common Topique, and opened their Gates to him and his Army. Polyæ. l. 2.

But

But instead of tying Epistles to an *Arrow*, there are later Contrivances, whereby the Letter may be put conveniently enough within *one*, or in *Bullets*, &c.

Keckerman relates, and let him answer for the truth of it, that *Rhegiomontanus*, at the coming of the Emperor *Maximilian* to *Nurenburg*, made a Wooden Eagle, which flew a quarter of a Mile out of the Town to meet his Imperial Majesty, and returned back again to accompany him of its own accord: And if this obtain belief so may that of *Horace*, as to the Artificial Dove, contriv'd by *Archytas*, Citizen of *Tarentum*, the *Pythagorean* Philosopher.

Horat. Lib. 1. Od. 28.

Rhegiomontanus is likewise said to have contriv'd an Iron Fly of which *Dubartas*.

6. Day 1. W.

Once as this Artist more with Mirth than meat,
Feasted some Friends whom he esteemed great,
From his Learn'd Hand, an Iron Fly flew out;
And having flown a perfect round about,
With wearyed Wings return'd unto her Master,
And as Judicious on his Arm he plac'd her.

Bishop *Wilkins* in his *World of the Moon*, proposes an Experiment of a flying Chariot, and in his *Secret and Swift Messenger*: He mentions it as an Excellent Contrivance, Secretly, Safely and Swiftly to convey any Message: He again insists upon it in his *Mathematical Magick*, and is at a great deal of pains to answer the Objections may be urged against it (says he) *We see a great difference betwixt the several Quanti-*

Mat. Mag. l. 2. 6. 8.

ties

ties of such Bodies as are commonly upheld by the Air, not only Gnats and Flies, but also the Eagle and other Fowl of vaster Magnitude. Cardan *and* Scaliger *do unanimously affirm* (and this is almost as wonderful as the flying Chariot) *That there is a Bird amongst the* Indians *of so great a Bigness, that his Beak is often used to make a Sheath, or Scabboard for a Sword,* &c. And a little after adds, *The main difficulty and Labor of it will be in the raising of it from the Ground; near unto which the Earth's Attractive Vigor is of greatest Efficacy. But for the better effecting of this, it may be helped by the strength of Winds, and by taking its first rise from some Mountain, or other high place: When once it is aloft in the Air the Motion of it will be easie,* &c.

But yet for all this, I do not hear, that any part of this *Mechanical* Learning, has been very guilty of the Cryptical Conveyances we speak of, however if they should attain to that Perfection (which I do very much question) they may be subservient to bad Designs, and therefore I mention them.

CHAP.

CHAP. V.

Of the ſeveral Propoſals for Secret Informations, mention'd by Trithemius *in his Epiſtle to* Arnoldus Boſtius, &c.

HAVING gone through the ſeveral ways for Secret Information in *Writing*, by *Signs and Geſtures*, and in *Speech*; and having taken notice of the moſt remarkable ways for *Secret Conveyances*, that are recorded in Hiſtory, I come now to enquire into the *wonderful* Propoſals with which *Tritbemius* has amaz'd the World; not only in that Epiſtle of his to *Arnoldus Boſtius*: but in his other Writings.

There are ſome Treatiſes upon *Steganography* have come out under *Trithemius*'s Name; but whether Genuine, or Suppoſititious, I ſhall not determine.

From the affected Obſcurities, under which *Trithemius* veiled his Methods for *Secret Information*, he had the ill Fortune to lie under the Suſpicion of dealing with bad *Meſſengers*: And *Frederick* the 2*d*. Prince *Palatine*, &c. cauſed Burn the Original Manuſcript even of his ſix Books

Books of *Polygraphy*, That in my thoughts contain just as much of *Witchcraft*, as that Opinion held by *Vigilius* Bishop of *Saltzburg* (concerning *Antipodes*) had of *Heresie*, who was condemn'd for it in the beginning of the 8*th*. Century.

It is questioned by some, whether those Books of *Polygraphy Trithemius* himself published were a part of the *Steganography* he proposed, and there wants not Reasons for the Affirmative. But here I wave this, and all other Debates of this nature.

And that we may proceed regularly, take his own Words concerning his Steganography.

The Epistle of *Johannes Trithemius* to *Arnoldus Bostius.*

In manibus jam habeo grande opus, quod si unquam fuerit publicatum, quod absit, totus Mundus mirabitur, cujus primi libri titulus est Steganographia. *Erunt autem quatuor libri, quilibet ad minus centum capitulis distinguentur. Incepi hoc opus ad instantiam unius magni principis, quem nominare non opus est. Quæris quid hoc opus docet? Maxima docet, omnibusque nescientibus stupenda & incredibilia, quæ à sæculo nunquam sunt audita.*

Primus enim liber continet plusquam centum modos occultè scribendi, quicquid velis sine omni suspicione, sine literarum transpositione, sine omni timore, ita ut non sit homo in Mundo, qui naturali Industria scire, vel suspicari quidem possit, quid in meis literis contineatur, præter eum, qui artem novit

vit ex me, vel ex eo quem ego docuero. Verba sunt plana & familiaria, omni suspicione carentia, sed intentionem meam nemo sine arte percipere poterit in æternum, quantumcunque sit doctus, & est res verè stupenda.

Secundus liber multa mirabiliora continebit, per ignem videlicet in hac arte possum mentis meæ conceptum notum facere artem meam scienti ad quantamcunque distantiam, ad centum milliaria vel plura securè, sine verbis, sine scriptis, sine signis per quemcunque nuncium, qui si comprehensus in via fuerit, si interrogatus etiam per tormenta durissima, nihil potest fateri de nuncio meo, quia nihil sibi penitus constat de illo, quicquid occurrat, nuncium meum semper manebit occultum, nec omnes totius Mundi homines si simul essent congregati possent illud vestigare virtute naturali.

Quod etiam facere sine nuncio, dum volo, possum, voluntatem quoque meam indicare possum sedenti in carcere artem scienti, etiam longè absens quantumcunque custodiatur, etiam si tribus milliaribus sub terra sederat. Et hæc omnia latissimè & universaliter quando & quotiescunque voluero possum, naturaliter sine aliqua superstitione, vel adjutorio spirituum quorumcunque. Mira sunt fateor, sed audi mirabiliora.

Tertius liber docet artem, per quam possum hominem idiotam, scientem tantum linguam maternam, qui nunquam novit verbum Latini Sermonis in duabus horis docere, scribere, legere & intelligere Latinum satis ornatè & disertè, quantumcunque voluerit, ita ut quicunque viderint ejus literas, laudent verba, intelligant Latinè composita.

Quar-

Quartus liber continet multa ſtupenda experimenta, ſed purè naturalia. Mentem videlicet meam indicare poſſum ſcienti artem meam inter edendum, vel ſedendum cum aliis, ſine verbis, ſine nutibus quam latiſſimè voluero, etiam inter loquendum, prædicandum, ludendum in organo, vel cantandum, ſine impedimento actionis alterius cujuſcunque, ita ut prædicando bona & ſancta indicem, non verbis, non ſignis, non nutibus, cuicunque ſcienti latiſſimè quicquid voluero, etiam clauſis oculis, & alia multa quartus liber continebit arcana, quæ non ſunt in publicum proferenda.

Mirantur hæc omnes, qui audiunt, è quibus multi ſunt viri nobiles atque doctiſſimi, exiſtimantes iſta aut eſſe impoſſibilia, aut penitus ſupernaturalia.

His ego tibique reſpondeo, quod multis reſpondi: multa naturaliter eſſe poſſibilia, quæ neſcientibus viris naturæ impoſſibilia, vel etiam ſupernaturalia videntur. Et ecce coram Deo meo loquor qui omnia novit, quod ea quæ prædixi miranda, multò ſunt excellentiora, profundiora & majora, quàm ego ſcribere, aut tu credere poſſis, & tamen omnia ſunt pure naturalia, ſine deceptione aliqua, ſine ſuperſtitione, ſine magica arte, ſine invocatione ſeu miniſterio quorumcunque ſpirituum.

Hæc ideò dixerim, ut ſi forte aliquando rumor ad te pervenerit, me aut ſcire aut poſſe miranda, non me Magum dico exiſtimares, ſed Philoſophum. Nam quod Alberto Magno *profundiſſimo rerum naturalium ſcrutatori contigit, ut propter miranda quæ occulta virtute naturæ operatus eſt, Magus à vulgo ſit habitus, mihi ſum certus ſimiliter contingere poſſe.*

Si

Si quæris, unde mihi iſta quæ nemo alius novit, audi. Non ab homine, neque per hominem iſta didici, ſed per revelationem neſcio cujus; cum enim præſenti anno, quadam vice cogitarem quid novi poſſem invenire quod omnes lateret, cœpi cogitare ſi ea poſſem excogitare quæ dixi miranda. Cum poſt longam phantaſiam tanquam de re impoſſibili penitus deſperarem, dormitum eo, me nocte reposui, fatuitatem meam ipſe mecum deridens, quòd impoſſibilia quærere tentaverim. Eadem nocte mihi aſtitit quidam dicens, non ſunt vana, ô Trithemi, *quæ cogitaſti, quanquam tibi ſint impoſſibilia, quæ nec tu, nec alius tecum, poterit invenire; dixique ad eum, Si ergò poſſibilia ſunt, dic, obſecro, quomodo fiant. Et aperiens os ſuum, de ſingulis, per ordinem me docuit, oſtendens quomodo fieri, quæ multis diebus fruſtra cogitaveram, de facili poſſent. Ecce coram Deo quia non mentior, ſed veritatem dico, neminem iſta adhuc docui, quamvis multi permittente magna, ſæpè rogarint, præter unum principem cui ſcribo, quem de poſſibilitate artis manifeſto argumento feci certiorem, nec decet iſta alios ſcire, quam principes; alioquin multa per ea fierent mala, traditiones, deceptiones, fornicationes & alia quæcunque vellent homines mali. Sed benè utentes arte multa per eam bona Reipublicæ facere poſſent; poſſum autem iſta omnia docere in omni lingua totius mundi quam nunquam audivi. Hæc tibi, Boſti, propterea ſignificare volui, ne me crederes otioſum.*

In this Epiſtle *Trithemius* ſpeaks of four Books only; *erunt autem quatuor Libri*, &c. But in his Preface to the Emperor *Maximilian*, he men-

mentions eight; and out of this Preface I have hereunto subjoyned his Apologetick account of his, Steganography in his own Words.

Ad memorati Principis & Domini Electori Philippi *Comitis* Palatini, Pavariæque *Ducis instantiam, ego* Johannes Trithemius, *nunc Abbas Monasterii* S. Jacobi *apud* Wirceburg, *tunc verò* D. Martini, *Præsulis in* Spanheim, *Moguntiæ diœcesis, octo mysteriorum libros in Steganographia scribere cœpi. Me autem in tertio jam libro ejusdem operis luculrattonem continuante, res contigit, quam breviter, si potero, sum dicturus. Anno Dominicæ nativitatis millesimo quadringentesimo nonagesimo nono, indictione Romanorum secunda: scisc.tanti per Epistolam* Arnoldo Bostio *Carmelitæ* Gandavensis *opidi, quid novi ederem, quibusve studiis occuparer, altera Palmarum die per mercatores ut amico rescripsi, me habere sub incude novum & mirandum Steganographiæ opus, & quid in singulis contin retur libris, per ordinem reseravi. Verum prius quàm epistola mea pervenisset* Gandavum, Bostius *in diebus Paschalibus è vita migravit ad Christum. Cujus loci Prior literas accepit, aperuit, legit, promisserumque novitate (ut reor) attonitus, multis aliis rogantibus legendas & rescribendas communicavit. Hinc est factum quod ipsa epistola mea, brevi tempore, per totam penè* Germaniam & Galliam *divulgata, sæpiusque à pluribus rescripta, multos etiam doctissimos viros convertit in stuporem & admirationem, usque adeo ut quid cum veritate sentire deberent, de me hæsitarent. Ex his fuere nonnulli qui meas in dicta Epistola Pollicita-*

tiones constanter asseverarent frivolas, impossibiles, atque mendaces, & à me inanis gloriæ causa impudenter excogitatas.

Alij verò dicebant. Magna & miranda pollicetur iste Abbas Trithemius, quæ si potest, non aliter quàm Dæmonum ministerio potest, cum naturæ metas procul videantur excedere. Si verò non potest, quis eum dubitabit esse mendacem, & ab omnibus viris bonis & doctis meritò refutandum: Sed absit procul utrumque à me, quoniam naturalia promisi. Omnium verò incognita mea temerè judicantium, maximè temerarius, & iniquissimus rerum æstimator tandem prorupit in medium, Carolus Bovillus, *natione* Picardus, *qui cum superioribus partibus* Alsatiæ *peragratis, ad me gratia hospitij venisset in* Spanheim *per Treviros rediturus in* Galliam, *quâ poteram humanitate ipsum tractavi, & omnia hospitalitatis beneficia, quamdiu mecum fuit, hilari vultu exhibui. Cumque ut fieri solet inter amicos maximè litterarum studiosos, omnia mea gratissimo hospiti exhibuissem videnda, cum aliis se obtulit etiam memoratum opus Steganographiæ, nec dum eo tempore consummatum. Vidit* Bovillus, *& obiter legit mente aliunde occupatus se adinventum mirari dixit, laudavit, nec quo intelligeretur modo, curavit. Unde cum non peteret intelligentiæ clavem, nihil eorum, quæ continebantur ipsa lucubratione nostra, meruit audire vel percipere. Revertus postea hæc in* Galliam, *malum bonis pro bono reddidit, & Christianæ fœdus amicitiæ turpiter violavit. Interrogatus enim per dominum* Germanum de Ganay *communem amicum, postea Episcopum* Aurelianensem *quid apud me reperisset, vidisseque in* Spanheim, *falsa*

falsa pro veris, mendacia pro beneficiis rescripsit, damnans & temerè judicans ea, quæ comprehendere intellectu minimè valebat. Nam cum doctrinæ sibi palmam invidia & mendacio crederet ore conferendam, epistolam ad memoratum virum doctissimum falsitate, mendaciis, injuriis & comtumeliis multis plenam rescripsit, in qua non intellectæ Steganographiæ mentionem faciens, me pravis artibus deditum Magum & Necromanticum falsè, mendaciter, & nimis injuriosè temeraria præsumptione proclamat. Cujus mendacissimis injuriis & Blasphemiis, Deo miserante, brevi taliter sum respondurus, quo intelligat omnis posteritas & me innocentem, & Fovillum impium, crudelem, & temerarium esse in hac parte mendacem. Constanter affirmo, veraciter dico, & confidenter in animam meam juro, cum Dæmonibus, pravis ac perniciosis, magicis vel necromanticis artibus me nullum unquam habuisse commercium: sed omnia & singula, quæ vel scripsi, vel scripturum me sum pollicitus pura esse, sana, naturalia, & Christianæ fidei in nullo penitus adversa. Unde non vereor mea promissa coram viris bonis & doctis, quando & quoties opus fuerit, dare examini quorum determinationi nullatenus intendo reluctari. Quod hanc Fovillanæ temeritatis historiam huic præfationi meæ interposui, causa rationabilis fuit, ut intelligant omnes maturo factum consilio, quod hactenus manet in tenebris opus Steganographiæ sepultum, non quod temeraria Fovilli judicia metuam: sed ne causam pluribus videar dare similibus de me similia suspicandi. Enimverò quantum ad me attinet, malem æmulos meos placare silentio, quàm literis irritare, vel scripturis ad insaniam pro-

vocare. Satius enim judicavi, omnia mirabiliter inventa perpetuo damnare ſilentio, quàm Magicæ vel Necromanticæ perniciosæ ſuperſtitionis notam, falſa etiam hominum æſtimatione incurrere. Lateat ergo Steganographia in tenebris, nec fiat Bovillanæ *Societati mendaci communis, quæ de rebus judicare conſuevit incognitis, & depravare famam bòni viri ſola libidine pravitatis. Veruntamen cohortantibus amicis, ut cum* Bovillo *intelligant æmuli noſtri, quàm temeratam & ementitam nobis injuriam fecerit (manente ſuis in terminis Steganographia) ſubjectum opus, quod Polygraphiam nuncupamus, per ſex libros diſtinctum in lucem edere conſentimus. Legant qui volunt, & ſine ſtomacho legant hoc volumen amici, cujus cùm latentia myſteria intellexerint omnia, ipſi abſque invidia ſint judices, naturalia ſint an ſuperſtitioſa. Scio enim & certus ſum omnia eſſe ſyncera, pura, naturalia, & ab omni ſtudio ſuperſtitionis malæ remota.*

Quoties autem ſermo procedit obſcurior, ea fit ratione, ne gladio defenſionis veſanus abuteretur ad interitum, quem animo & mente ſanus ad ſui defert munimentum. Nihil tamen propterea in eo continetur mali, cùm bonis etiam rebus in malum abutantur perverſi. Quiſquis autem hanc editionem noſtram condemnare præſumpſerit, ipſe ſibi conſcius eſt & teſtis, quod eam nunquam veraciter intellexit. Celantur ſub ænigmatibus myſteria ne bacuceis fiant bubonum arcana quomodolibet manifeſta. Si quem hæc ſcire delectat, remota procul invidia Lector accedat.

Sum enim Chriſtianus, ſum Presbyter, ſub norma Divi patris Benedicti & Monachus, Chriſtum dili-

diligo, & quâ possum sinceritate mentis, devotus semper adoro, nulla mihi sunt, nulla fuerunt, & protectore Deo nulla erunt cum dæmonibus commercia, nulla in Magicis, Necromanticis, seu profanis artibus studia, nullæ occupationes, nulla documenta. Qui de me aliter sentit, malè sentit, injuriam facit, & apertum Bovilli *mendacium defendit.*

And now having made *Trithemius* his own Advocate for the Lawfulness of his *Steganography, &c.* We may the more safely deal with his several Proposals therein contained; and to come to Particulars.

1. INQUIRY.

How Trithemius *might have performed without any unlawful Compact, what he promises in his first Book?*

Primus enim Liber continet plus quam centum modos, &c. "The first Book (says he) contains "more than a hundred ways of Secret Writing, "without all Suspicion, without any Transpo- "sition of the Letters, without any fear of dis- "covery, for no Man by human Industry can "know, nay or suspect the involved meaning "of my Letters, except he who knows the "Art from me, or from him to whom I shall "teach it, *&c.*

SOLUTION.

Having already taken notice of several ways of Secret Writing, that would never have given ground for Suspicion, if such Methods had not been first made Publick, much of the wonder *now* ceases. The *Lacedæmonian Scytale*, *Julius* and *Augustus*'s Inventions of Secrecy by *Transposition of Letters*: The *Invention of new Alphabets*, in short none of the old Inventions of Secret Writing had this Requisite, and before *Trithemius* imployed his time that way, very few or none ever thought of *Preventing Suspicion* in *Secret Writing*, or of the possibility of it; and besides, the Art of *Decyphering* was *then* altogether unknown; so that there might be some appearance of reason for his too confident Assertion; but That it was no way answerable even *then* to the stress he laid upon it, will I hope appear.

Those particular Methods that in great Probability he refers to, in the Words cited, have nothing but *hard Words* to guard them against discovery, the Invention hath little of extraordinary contrivance in it; for it is only by makeing the first Letters in the exterior Letter serve to express the inward meaning, as I have observed, *pag.* 67. *cap.* 3. Or by intermitting one Word, so that the first Letters, of the first, third, and fifth Words, *&c.* will be only significant.

Schot-

Schottus has several Examples to this purpose, and that I may not seem, quite to neglect any thing so much insisted on, by so great Authors, I have insert one. *v. g.* Steg Class. 7. Erotem. 5.

Let the Secret Intimation be, *Hac nocte post* XII. *veniam ad te, circa januam, que ducit ad Ortum, ubi me exspectabis; age ut omnia sint parata.*

Which by the former Artifice may be involv'd in the following Words.

Humanæ Salutis Amator, qui creavit, omnia nobis indixit Obedientiam Mundatorum, cui omnes tenemur obedire & obsequi. Præmium Sanctæ Obedientiæ erit Sempiterna fælicitas timentibus Deum. Christi Obedientiam in omnibus imitari Studeamus ut Vitam Æternam promissam nobis Mereamur Ingredi cum Angelis per Misericordiam Dei agamus Pœnitentiam dum possumus; tempus vitæ est brevissimum; cito Mors imparatos offendet, repente Negligentes consumet, Judici Animas transmittet. In Pœnitentiam agenda Fratres non tardetis: Velociter enim ad vos Mors veniet quam nemo vestrûm diu evadere potest. Dies ergo vestros transeuntes conspicite, Pœnitentiam inchoate dum tempus habetis. Ad quid diutius Negligitis? O Mors rerum horribilium terribilissima, quam velociter nos miseros consumis! Vester incolatus Brevissimus est, Judicio obnoxius, Mors omnes examini submittit. Exaudi nos Christe piissimè Salvator. Nobisque pœnitere cupientibus esto propitius. Concede nobis Timorem & Amorem tuum benignissimè Redemptor, Indulgentiam Peccatorum Supplanti-

bus tribue. Alme Creator Generis Humani exaudi nos, veniam nobis tribuens Scælerum. ô Pater misericordissime, esto nobis Misericors! Infirmitatem nostram adjuva clementissime; succurre misericorditer infirmis Animabus nostris, quoniam tui sumus. Pater indulgentissime Animabus fidelium requiem concede, Angelis conjunge, timentibus te adesse digneris.

Schottus, takes notice of a great many ways of varying this Secret Contrivance, such as, by Beginning at the 2*d.* Word of the *Exterior* Letter, and from thence to the 4*th.* 6*th.* &c. or to begin at the 3*d.* word, and proceed to the 4*th.* &c. Or by interposing words betwixt some of the Letters in the *Secret* Writing, and the rest to follow one another immediately, Or otherways by intermitting sometimes two words in the Epistle *infolding*, and sometimes one, *&c.*

All which are very *Laborious to write*, and very *easily decyphered*, if suspected.

Now that this Method of Secret Writing, was the Subject of *Trithemius*'s first Book of Steganography, there are good Arguments. For,

1. It is published in a Book entitl'd *Clavis Steganographiæ* that goes under *Trithemius* his Name.

Steganog. ibid.

2. Tho *Schottus* seems to question whether this was really any part of *Trithemius*'s Writings; yet he tacitly acknowledges it. (Says he) *Qui* Clavem *edidit, Artificium non intellexit*, &c. *He*

He who publiſhed the Clavis *has not underſtood the Artifice ; for the Old* German *Words in the Example are altered into the Modern* Dutch, *which change, confounds the Senſe,* &c. Now certainly if the Publiſher had been Author, he muſt be ſuppoſed to have underſtood his own Example ; but it is acknowledged he did not.

2. On the other hand I ſee no improbability, but that this *Clavis Steganographiæ Trithemii* is *Genuine* ; for ſince others of his Writings were publiſhed long after his Death, which are acknowledged by all to be his own, why might not this Manuſcript fall into the Hands of ſome Perſon, that particular and private Conſiderations might induce to ſend it abroad for Company ? And withal his peculiar Stile in obſcuring plain Things, is a convincing Argument of the Truth of it.

3. And withal this way of Secret Writing, can eaſily admit of a hundred and odd Variations, and agrees with his Propoſition in all Things, except the *Intricacy*, he attributes to it. But this is not, the only Hyperbole, he makes uſe of.

IN-

INQUIRY II.

Into the 2d. *Book of his Steganography.*

Secundus Liber multa Mirabiliora continent, " &c. (*i. e.*) The ſecond Book contains ma- " ny things more ſtrange, *viz.* By this Art " I can communicate my Intentions (by Fire) " to any one inſtructed in it, at any diſtance, a " hundred Miles or more, without Words, " without Writing, and without Signs, by any " Meſſenger, who, tho he be apprehended by " the way, and examined by the moſt ſevere " Tortures, he can reveal nothing of my Meſ- " ſage, becauſe he knows nothing of it. Nay " whatever occurs it can never be diſcovered, " and all the Men on Earth if aſſembled toge- " ther, can never unmask it without more " than natural help. This I can at pleaſure " perform without a Meſſenger: I can expreſs " my Mind at a great diſtance to a cloſe Pri- " ſoner, three Miles under ground: Let him " be under the ſtricteſt Cuſtody; all this I " can do effectually, and at all times, when " and how often I will, *&c.*

By what Methods *Trithemius* could perform all this, hath been enquired into, by *Schottus*, *Kircherus*, and many others; and it will be found a very hard task to give any ſatisfactory account of the means; for the whole Propo-

poſitions can moſt naturally be *RESOLVED* into Contradictions: For,

1. There is a way of *Converſe* propoſed, abſtracting from all means of *Diſcourſe*: Without WORDS, without WRITING, and without SIGNS.

2. He propoſes to inform his Confident without a *Sign*, and yet *by* a *Sign*, viz. *Fire*; for if *Fire* or *Smoak* when uſed for Secret Information, be not truly ſignificatory *Signs* both Reaſon and Grammar are at a great loſs.

3. He pretends, that he could expreſs his Mind to a cloſe Priſoner at a great diſtance, and three *German* Miles under ground, *whenever*, and *how often* he pleaſed; And this I am *perſwaded* he had omitted, if he had tryed the Experiment, upon one, in a Gulf, but half a *German* mile, below the ſurface of the Earth, *&c.*

As for the Conjectures for reconciling the laſt Propoſitions to Senſe, they want not their own Difficulties: But ſince we muſt neceſſarily grant, that his Words are ænigmatically propos'd, there muſt be the greater allowance given.

His Propoſitions in the *ſecond Book* are reducible to three.

1. *To Communicate his Secret Intentions by any Meſſenger to his Confederate at any diſtance, without any Writing*, &c. *And that by Fire.*

2. *To Communicate his Intentions (by Fire) without a Meſſenger.* And

3. *To*

3. *To ſignifie his Mind to a cloſe Priſoner, under ground*, &c.

By the firſt, *Schottus* is of Opinion, that *Trithemius* underſtood that way of Secret Writing mentioned, *Chap.* 1. *Sect.* 6. which will be only Viſible when held by the Fire. He ſays the Meſſenger cannot reveal the Meſſage, becauſe he knows not the Contents of it: And if intercepted, nothing could be underſtood by it, becauſe the Artifice was at that time known to few or none, except *Trithemius*: And when it comes to the Confederate's Hands, he may find out the meaning by Fire, without any word or ſign, made by the Writer, upon the Paper, by Fire.

If you approve of this *Reſolution*; by the words, *without Writing* or *Signs*, muſt be underſtood, *apparent and viſible Letters* or *Signs*. And indeed this is the moſt natural Conſtruction can be put upon them.

But there is another, wants not ſome kind of probability, *viz.* That theſe words may ſignifie, ſome Secret Conveyance by Writing upon the Meſſenger's Skin, ſuch as that we obſerved, Chap. 4. concerning *Hiſtiæus*: This conjecture is likewiſe mention'd by *Schottus*: For by (*FIRE*) *Trithemius* may underſtand a *Virtual* Fire, *viz.* *Aqua Fortis*, &c. And *WRITING* and *SIGNS* may be explained as before.

As

As to the *ſecond* Propoſition it may be referred to that Secret way of Information by Torches, or by Fire and Smoak, *&c.* mentioned Chap. 2. Sect. 2.

The other Conjectures here are *Fabulous*, particularly that of *Cornelius Agrippa, Lib.* 1. *Philoſoph. Occult. Cap.* 6. *viz.* By oppoſing a Glaſs with Letters writ upon it to the Full-Moon, which being magnified in the Air, and carried back to the Moon with her reflected Beams, are there perceptible.

And as for the *third*, it may reſpect the Species of *Sound*, becauſe of the Suppoſition of being ſo ſtrictly ſhut up, unleſs he had an Eye at ſome of thoſe Secret ways of Conveyance mentioned Chap. 4. which laſt, I rather encline to believe, as being the more eaſie and ſafe Contrivance, conſidering the ſuppoſed Circumſtances of a *cloſe Priſoner*; nor does *Trithemius* propoſe the Performance of the laſt *by Fire*, or *without Writing*, &c.

And this Conjecture will appear the more probable, when we come to conſider the barbarous and ſtrange Terms, he wrapt up thoſe known Experiments in.

I know there are likewiſe Fables here confidently related, of *means* for *entertaining a Correſpondence at any diſtance*, by help of two Needles of an equal ſize, touched by the ſame Loadſtone, moving in a circle, whereon the Letters of the Alphabet are deſcribed, *&c.* And that by the mutual *Inſition* of Blood or Fleſh

Fleſh, between two Confederates, *&c.* But the Performance of either is impoſſible in Nature; as *Kircherus Schottus*, and other great *Naturaliſts* have clearly demonſtrated.

INQUIRY III.

Concerning the third Book of Steganography.

Tertius Liber docet Artem, per quam poſſum Hominem, &c. The third Book teaches an "Art, by which I can inſtruct a Man Ignorant "of Letters, only knowing his Mother-"Tongue, tho he never underſtood one word "of Latine, in the ſpace of two Hours, to "Write, Read, and Underſtand Latine, or-"nately and eloquently, *&c.*

This Art agrees exactly with that he afterwards publiſhed in his *Polygraphy*, only in the laſt he explains ſome ambiguous Words in the former, *v. g.* Theſe Words, *to write, Read and underſtand Latine, ornately and eloquently*, &c. Are rendered in the expoſition of his firſt Book of *Polygraphy* to this purpoſe, *In paucis Diebus "non dicam horis informare poteris*, &c. In a few "days, not to ſay hours, you may teach one "ignorant of the Latin Tongue; to *read, write,* "*ſpeak* and *underſtand* it; indeed not *every* "thing in it, but to ſuch a degree as any exi-"gence in his affairs ſhall require.

Now

Now a part of the Fallacy in his Epiſtle to *Arnoldus Boſtius* lurks in that expreſſion, that he could make a Man, *read, write and underſtand Latin, ornately and eloquently*, without any exception. Whereas on the contrary, his Scholar ſhall only Read, or Communicate any Secret Meſſage in his *Mother-Tongue*, concealed under certain Forms of Prayers or Exhortations in *Latin*; of which he neither underſtands the *natural meaning*, nor can he change the *Forms* given him, upon occaſion: Now to explain this ingenious Art a little,

1. There muſt be a vaſt number of common Alphabets writ down.

2. And to each of the Letters of every particular Alphabet, muſt be joyned Words that are *Syncnyma*, or of the like ſignification, and theſe Words ſerve to expreſs the Letters unto which they are oppoſite.

3. If all the Words expreſſing *A*, in the ſeveral Alphabets, do make up an *Oration*; and all *the Words* in each rank be of like ſignification. And if *A* in Writing by this Method, begin orderly at the firſt Alphabet, taking one Word thence, and another from the ſecond, and the next from the third, *&c.* as they ſhall expreſs the Letters of the Secret Intention: 'Tis eaſie to conceive, how a Man that is *Ignorant of Latin* muſt yet ornately write Latin. But that this may be further Evident, I have hereunto added a few of *Tritbemius*'s Alphabets.

A L-

ALPHABET.

1.	2.
A Deus	A Clemens
B Creator	B Clementiſſimus
C Conditor	C Pius
D Opifex	D Piiſſimus
E Dominus	E Magnus
F Dominator	F Excelſus
G Conſolator	G Maximus
H Arbiter	H Optimus
I Judex	I Sapientiſſimus
K Illuminator	K Inviſibilis
L Illuſtrator	L Immortalis
M Rector	M Æternus
N Rex	N Sempiternus
Q Imperator	O Glorioſus
P Gubernator	P Fortiſſimus
Q Factor	Q Sanctiſſimus
R Fabricator	R Incomprehenſibilis
S Conſervator	S Omnipotens
T Redemptor	T Pacificus
V Auctor	V Miſericors
W Princeps	W Miſericordiſſimus
X Paſtor	X Cunctipotens
Y Moderator	Y Magnificus
Z Salvator	Z Excellentiſſimus.

AL-

ALPHABET.

3.	4.
A Creans	A Cœlos
B Regens	B Cœleſtia
C Conſervans	C Supercœleſtia
D Moderans	D Mundum
E Gubernans	E Mundana
F Ordinans	F Homines
G Ornans	G Humana
H Exornans	H Angelos
I Conſtituens	I Angelica
K Dirigens	K Terram
L Producens	L Terrena
M Decorans	M Tempus
N Stabiliens	N Temporalia
O Illuſtrans	O Ævum
P Intuens	P Æviterna
Q Movens	Q Omnia
R Confirmans	R Cuncta
S Cuſtodiens	S Univerſa
T Cernens	T Orbem
V Diſcernens	V Aſtra
W Illuminans	W Solem
X Fabricans	X Stellas
Y Salvificans	Y Vitam
Z Faciens	Z Viventia

ALPHABET.

5.	6.
A Impendat	A Omnibus
B Conferat	B Cunctis
C Donet	C Univerſis
D Largiatur	D Credentibus
E Concedet	E Nobis
F Condonet	F Chriſtianis
G Tribuat	G Fidelibus
H Diſtribuat	H Petentibus
I Retribuat	I Expetentibus
K Contribuat	K Orantibus
L Indulgeat	L Exorantibus
M Exhibeat	M Poſtulantibus
N Præſtet	N Expoſtulantibus
O Offerat	O Quærentibus
P Deferat	P Chriſticolis
Q Oſtendat	Q Inquirentibus
R Revelet	R Requirentibus
S Manifeſtet	S Exquirentibus
T Inſinuet	T Optantibus
V Aſpiret	V Exoptantibus
W Reſtituat	W Præoptantibus
X Reddat	X Exſpectantibus
Y Adminiſtret	Y Sperantibus
Z Faveat	Z Deſiderantibus

ALPHABET.

7.	8.
A Vitam	A Permanſuram
B Amœnitatem	B Æternam
C Jucunditatem	C Sempiternam
D Conſolationem	D Cœleſtem
E Lætitiam	E Supercœleſtem
F Gloſiam	F Perpetuam
G Fœlicitatem	G Beatiſſimam
H Beatitudinem	H Angelicam
I Viſionem	I Seraphicam
K Jubilationem	K Immortalem
L Quietem	L Immarceſſibilem
M Requiem	M Ineffabilem
N Manſionem	N incomprehenſibilem
O Habitationem	O Inæſtimabilem
P Recreationem	P Luminoſam
Q Fruitionem	Q Splendidam
R Lucem	R Lucidiſſimam
S Exultationem	S Amæniſimam
T Claritatem	T Perrennem
V Pacem	V Sanctiſſimam
W Tranquillitatem	W Interminabilem
X Glorificationem	X Dulciſſimam
Y contemplationem	Y Perfectam
Z Securitatem	Z Futuram.

[cum Omnibus]

[cum Univerſis]

ALPHABET.

9.	10.
A Sanctis	A Cœlis
B Electis	B Cœleſtibus
C Prædilectis	C Supercœleſtibus
D Sanctiſſimis	D Æternum
E Juſtis	E Perpetuum
F Juſtificatis	F Sempiternum.
G Prædeſtinatis	G Sæcula Sæculorum
H Angelis	H Ævum Sanctum
I Arch-Angelis	I Sæculum
K Amatoribus	K Regno Cœlorum
L Cultoribus	L Altiſſimis
M Amicis	M Excelſis
N Apoſtolis	N Paradiſo
O Prophetis	O Olympo
P Diſcipulis	P Paradiſiacis
Q Martyribus	Q Olympicis
R Sanctificatis	R Fulgoribus
S Dominationibus	S Fœlicitate
T Dilectis	T Fœlicitatibus
V Civibus	V Gloria
W Servis	W Honore
X Famulis	X Magnificentia
Y Miniſtris	Y Luce perpetua
Z Confeſſoribus	Z Patria Cœleſti.

[Illegible]

[Amen.]

The

The firſt four Books of *Tritbemius*'s Polygraphy, contain nothing but a Continuation of ſuch Alphabets, only in the third and fourth, they are conceived in Barbarous Words: I have inſert theſe few only, and given no Example, becauſe the manner of Writing by them is by this time obvious.

Note the Words writ in a different Character at the ſide of the reſt, ſignifie nothing to the Confederates; but are added in the outward Writing to make up the ſeeming Senſe, and when there are two of them, one is only uſed.

Remarks upon the foregoing Method of Secret Writing.

I have not hitherto inſiſted upon this Method of Secret Writing: Nor do I here pretend to SOLVE the Difficulties in Decyphering it: But I have made ſome occaſional Remarks as to the practice of it. And

1. According to *Tritbemius*, there muſt be a new Alphabet for every Letter in the private Epiſtle.

2. Theſe Alphabets require a more than ordinary Ingenuity in their Contrivance.

3. When the Alphabets are exactly fram'd; the leaſt miſtake in the Writer, turns the Secret Intimation into a *Chaos*.

4. But ſuppoſe there were nothing amiſs in the whole Deſign, (which is enough in all Conſcience freely to grant) yet there is more Time, and Pains required in Writing and Reading, by this Artifice, than a Man in Buſineſs, can diſpenſe with: For (as we have obſerved) according to, *Trithemius*, the Key muſt contain as many Alphabets, as the Secret Epiſtle has Letters in it: Now in *Argile*'s long Letter inſert in the *Diſcoveries made in Scotland*, there are upwards of a thouſand *Words*; and if he had taken *Trithemius*'s way of concealing it, there had been five or ſix thouſand Alphabets uſed in the *Key*: And I leave it to *ARITHMETICK* to *RESOLUE. How much Time a particular Search into each of thoſe Alphabets will amount to. And to STOCISM* (for none, but of that Sect will try) *how much Patience.*

Athanaſius Kircherus in his Steganography Endeavours to improve *Trithemius*'s Method. The Alterations I obſerve are theſe.

1. *Kircherus* contrives his Key in form of an Ordinary Epiſtle: Whereas *Trithemius* conceives his, in forms of Prayer, which is more Liable to Suſpicion, eſpecially in an age, when the greateſt Villainies are committed under a *Form of Godlineſs.*

2. *Kircherus* has Alphabets of ſeveral Languages, whereby a Man may chuſe what ſpeech he pleaſes for his *Exterior* Letter, tho he underſtand not the Genuine meaning of one Word of it. But this was propoſed by *Trithemius.*

3. *Kircherus*'s Key conſiſts not of many Words

to

ſo that if the Secret or *Interior* Epiſtle be not conceived in a few, it gives Ground of *Suſpicion* and of *Reſolution too.*

For the Words that expreſs every particular Alphabet (as before) being of *like Signification*, (that the outward Writing may have a ſeeming Senſe,) at every return you ſhall have the ſame ſenſe, tho not in the ſame words, which gives ground to ſuſpect, and if the Writing be long, and many returns, to *Solve* it.

Again, ſuppoſe that ſeveral Letters, writ by the ſame Key were ſeized, (which is no great improbability) the Senſe of all ſhall be to the ſame purpoſe, and that gives cauſe enough of *Jealouſie*, and facilitates the *Diſcovery.*

And having conſidered *Trithemius*'s tedious Method, and *Kircherus*'s way of abbreviating it, both are lyable to ſo many Inconveniences, that it is evident, many of the Propoſals for Secret Information conſidered in the firſt Chapter, and particularly that of the Lord *Bacon*'s by Writing *omnia per omnia* is preferrable to it.

INQUIRY IIII.

Into the Contents of the 4th. Book of Steganography.

Quartus Liber continet multa ſtupenda Experimenta, &c. " The fourth Book contains ma-
" ny wonderful Experiments, but ſimply Na-
" tural, *viz.* I can fully communicate my Con-
" ceptions to my confident, when we are

" eating or sitting with others, without *Words*,
" without *Gestures*: As also in Discourse, in
" Preaching, Playing upon the Organ, or
" Singing, and that without any Impediment
" of either Action, so that in Preaching things
" good and holy, I can reveal my mind Secret-
" ly without *Words*, *Signs* or *Gestures*, &c.

These Words to my thinking may be reduced to three *Propositions*.

1. A Secret way of Converse in Company is proposed (*inter edendum vel sedendum*) without *Words* or *Gestures*,

2. By a premediated Oration, or any *Discourse*, to reveal an Intention; without *Words*, *Signs*, or *Gestures*. And

3. By *Musical Notes*, to inform a Confederate.

And I suppose they are all so jumbled together of Design, that these Words, *without Words Signs or Gestures*, might be attributed by the unwary, to every one of the particular Proposals. And certainly by *SIGNS*, &c. must be understood Signs PERCEPTIBLE, or else his Words fall under the first Contradiction, that was observed in the Preceding *Inquiry*. And having noted this, I proceed.

As to the first, In eating or sitting in Company, every *Action* may be *significant* by *Compact*, that is necessary or usual, as calling for Drink, wiping of the Mouth, or Hands, *&c*. And he does not Exclude *Signs* in the first Proposition.

As

As to the ſecond Propoſition, it is very naturally reducible to that kind of Secrecy in *Speech*, we have conſidered Chap. 3. Sect. 1. Paragraph 3. So that in Preaching *Bona & Sancta*, one may couch any Intimations, *WITHOUT* any *Sign* or *Geſture*; or *Words* (*i. e.*) Words *extrinſick* to the outward *Senſe* of the Diſcourſe; but this ſavors too much of *Impiety*.

As to the *Third*, That the Differences of Sound, and particularly of Muſical Notes, either in Muſick, Inſtrumental or Vocal, may be applyed to the Letters of the Alphabet, is already obſerved.

And now having Inquired into the *Myſterious* Difficulties, that relate to Secret Information contain'd in the Epiſtle to *Arnoldus Boſtius*, I ſhall examin a few other of the Obſcurities mentioned by *Tritbemius*.

INQUIRY V.

Into the ſeveral Myſtical Expreſſions, Trithemius *hath left upon Record in his Polygraphy.*

Tritbemius in the Preface of his Polygraphy, hath theſe hard Words. *Magnus Romanorum* Cæſar Auguſtus, *tenebroſo cupiens in arduis uti nunciorum miniſterio, ſpiramina vocis conceptæ mutavit ex lucidis in Opaca, quorum barbariem votis renitentem, Metatheſeos* Orchemate *pulchra inventione, ad nutum convenientem effecit, & iſte receptivus & quaſi perpetuus ordo thelemati nihilominus* Polyg. pag. 17.

ominum & temporis rationi subjectus, quanquam nuncios ab incursione Bucuccorum conservet in via securos: sui tamen regulatas non custodiens metas, intuentes faciet omnes de suspicione rei sollicitos.

All the Mystery is no more, than that *Augustus* by Transposition of the Letters of the Alphabet, changed their Powers, as we have it from his own Authority in his Exposition to *Maximilian.*

Polyg. pag. 45.

Again in his Preface, he tells us, *Archimides ille Syracusianus Mathematicorum facile Princeps, albam suis convenientem institutis Volucrem, nudam per Caput & Pedes, bactro in formam Tetragoni recisо circumferenter affixit, ordinatisque debita proportione Ministris, opus volatili commendavit instrumento, donec in picam Imago Volucris albæ mutata comparuit. Quo rite peracto, resolvit affixam sua manu, quam ut avolare permisisset, facta est subito inter familiares penetralium facies disjunctio magna, surrexitque mox tortuosæ imaginis monasticæ prius monstrum nimis vagabundum, cujus in aspectu nemo quod erat potuit cogitare. Nec prius conquievit bubonum dissensio, donec Imago Magistri, picam scite religasset Tetragono consimili.*

P. 17, 18.

This Wonderful *Monster*, at last by his own *Metamorphosis* is turned into that *Invention* of Secret Writing by the *Lacedæmonian Scytale*, mentioned *page* 91.

Alii enim Familiares ministerio Artis præpositæ, Bubones habebant Philophotos alij Misophotos, &c.

Page 52.

By

By *Bubones*, he all along expreſſeth *Secret Writing*, and what *Philophoti* and *Miſophoti* do denote, is clear from the words themſelves, *viz. Philophoti, Apparent Characters* from φίλος and φῶς; *Miſophoti, Occult or Inviſible Characters* from Μίσος.

The Hieroglyphick he takes to Expreſs *Secret Writing*, in General, by the *Owl*, is very *Natural:* But when he ſays *habebant Bubones Philophotos*, the Expreſſion is not ſo very *agreeable*; for *Owls* have no great kindneſs for the *Light*; as alſo *Light* and *Secret* Information were ever at variance.

A Little after Speaking of *Viſible* and *Inviſible* Characters, he ſays, *Modi vero Characterum* Viſibilium, *pro ſcriptura occulta nimis ſunt multi, ac pæne innumerabiles*, &c. Inviſibilium *autem tria ſunt genera inter Mortales hodie magis uſitata. Primum nuncupatur* Dermaticum, *quod fit in Dorſo Nunciorum, Scriptura quedam Artificialis per Loturam cujuſdam humoris duntaxat viſibilis, quam penetrare nemo ſufficit; qui artis neſcierit arcanum. Secundum vero* Hyphaſmaticum *dicitur, quo rebus certis in Panno ſcribitur, quod exſiccatum, videri poteſt minime; donec Madefactum in aqua frigida cernatur. Tertium genus nominatur* Aleoticum, *quod eſt multiplex & varium, tam in forma, quam in Materia, habetque modos occulti ſcribendi pæne Innumerabiles; ejus autem Scriptura fit in* Charta, *vel ſine* Charta, *cum* Nemilna, *&* Cala *cum* Raphocam, Lapolce, *aliiſque rebus diverſis. Scribuntur item Literæ, ac variis modis abſcon-* Trith. ibid.

ſcenduntur & Locis, ut ſub Race Tabulata, *ſub* Rohrila cubior, *in* Leopi, *in* Necoflas, *in* Ceocali, Locubat, *in* Ratera, *in* Liſpilia, *& aliis ſimilibus pæne infinitis*, &c. Of all which in Order.

And Firſt, he himſelf explains the meaning of *Dermaticum*, to be an Artificial kind of Writting on the Meſſengers back, not viſible until waſhed with a *Certain Liquor*. The word is derived from Δέρμα, which ſignifies the skin: By what means this may be performed *Baptiſta Porta, Kircherus, Schottus*, and many more give an account; but for Antiquities ſake, I ſhall only Repeat *Pliny*'s words in his * Natural Hiſtory, to the like purpoſe. *Tythimalum, Noſtri herbam lactariam vocant, alii Lactucam caprinam: Navrantque lacte ejus inſcripto Corpore cùm inaruerit, ſi cinis inſpergatur apparere Literas. Et ita quidem Adulteros alloqui maluere quam codicillis.*

Plin. lib. 26. cap. 8.

See the preceeding Chapter.

2. *Trithemius* likewiſe explains *Hyphaſmaticum* to be an Experiment, whereby a man may write upon Cloth, and the Letters to be indiſcernible, until the Cloth be wet in cold Water. *Hyphaſma* is a Greek word, ſignifying Cloth, or Weaving.

3. The third kind of Writing ſecretly by Latent Characters mentioned, he calls *Aleoticum* I know none that have given any Account what it is, but it may be derived from Ἀλέομαι to *avoid*. *Trithemius* only tells us that it is Ma-

ni-

nifold and various, both as to the *Form* and *Matter*, and has almoſt Infinite ways of Secret Writing, and that either with or without Paper, *&c.* *That a man may write ſecretly without Paper*, we have already given ſeveral practicable Inſtances in the 4*th* Chap. We ſhall now proceed to thoſe adduced by *Trithemius* in this place. And,

1. A man ſays he may write *cum Nemilua*, which in all probability is put inſtead of theſe words *cum Alumne* (*i. e.*) with Alum, for the one is only a tranſpoſition of the Letters of the other; an Obſcurity *Trithemius* did very much affect. *Schot. Steg. Claſſ. 7.*

2. By *Cala* may be underſtood *Lac*, (*i. e.*) Milk, and the Redundant Letter perhaps has been added *Euphoniæ gratia*. *Schot. ibid.*

I have already conſidered ſecret Writing with *Alum* and *Milk*, Chap. 1. Chap. 6.

3. *Cum Raphocam* (i. e.) *Cum Camphora*, *Camphire*, a kind of *Gum*. *Schot. ibid.*

4. *Cum Lapolce*, is interpreted *cum Cepolla*, (i. e.) an *Onyon*.

Now after theſe Inſtances *Trithemius* comes next to treat of another part of his *Aleotical* kind of Secret Information. for (ſays he) as Epiſtles may be ſecretly written, ſo they may be ſeveral ways, and in ſeveral places Concealed.

1. *Sub Race Tabulata* (i. e.) *Sub Tabula cerata*, *viz.* The Letters inſcribed may be covered over with Wax, as in that Inſtance we Mentioned of *Demaratus*, &c. *Schot. ibid.*

2. *Sub*

Schot. ibid.

2. *Sub Roſirila cubior*, ſome interpret this *ſub floribus Rubi*; but *Schottus* is not pleaſed with that Interpretation, but thinks it may perhaps be read, *Sub Roſirila Mubios*, *ſub foliis Arborum*, Concealing of Letters under the Leaves of Trees.

3. *In Leapi*, (i. e.) *in Pileo*, or to hide Letters in a Hat, Helmet, or Cap.

4. *In Necoſlas* (i. e.) *in Flaſcone*, to conceal Epiſtles in a Bottle or Viol.

5. *In Ceocali* (i. e.) *in Calceo*, only the laſt Letter is *redundant*.

6. *In Locubat* (i. e.) *in Baculo*, the laſt Letter being again *redundant*.

7. *In Ratera* (i. e.) *in Terra*, under ground.

8. *In Liſpilia* (i. e.) *in Pallis*, in Cloths.

And now having in the laſt place *Inquired* into the Wonderful Propoſals for Secret Information mentioned by *Trithemius* firſt in an *Epiſtle* to *Arnoldus Boſtius*; and afterwards in his *Polygraphy* to the Emperor *Maximilian*, I ſhall not inſiſt further at this time.

FINIS.